

Working with the Department of Defense: Siting Renewable Energy Development



Natural Resources Defense Council | Department of Defense





North American energy use as viewed from space.

This document is the product of consultation and coordination among the Deputy Assistant Secretary of Defense for Readiness, the Deputy Under Secretary of Defense for Installations and Environment, the Director, Operational Test & Evaluation, and the Natural Resources Defense Council.



Printed on recycled paper
30% post-consumer waste

April 2013

TABLE OF CONTENTS

Working With DoD: Siting Renewable Energy Development

INTRODUCTION	iii
PREFACE	iv
SITING CONSIDERATIONS FOR LAND-BASED RENEWABLE ENERGY RESOURCES	1
<i>Drivers Behind Renewable Energy Siting Considerations:</i>	
<i>DoD Mission and Environmental Stewardship</i>	<i>2</i>
KEY RENEWABLE ENERGY SITING CONSIDERATIONS	4
APPLYING RENEWABLE ENERGY PROJECT SITING CONSIDERATIONS	5
<i>Project Siting Outside DoD-Managed Lands Which Could Impact the DoD Mission</i>	<i>7</i>
Lands in Proximity to DoD-managed Lands.....	7
Other Lands on which Renewable Energy Development could Impact the DoD Mission.....	7
<i>Applying Siting Considerations to Specific Locations:</i>	
<i>DoD Mission Interests Regardless of Location on or off DoD-Managed Land</i>	<i>8</i>
<i>Applying Siting Considerations to Specific Locations: Areas with Low Environmental Conflicts and Areas with High Environmental Conflicts</i>	<i>9</i>
High Conflict Areas	9
Low Conflict Areas to Prioritize.....	12
STAKEHOLDER INVOLVEMENT	13
THE ROAD AHEAD: DOD’S DEVELOPMENT OF RENEWABLE ENERGY MANAGEMENT POLICIES	14
CONCLUSION	16

Introduction

Military readiness, healthy natural resources, and the development of renewable energy are all essential to our national interests. Development of clean domestic energy sources strengthens national security by increasing energy security while mitigating the threat posed by climate change. With multiple perspectives and overlapping needs, the Office of the Secretary of Defense (OSD) and the Natural Resources Defense Council (NRDC) collaborated on this primer to share points of view and promote cooperation among all government and civilian stakeholders.

Development of large-scale renewable energy sources can require vast expanses of undeveloped open space. This same open space may be owned, leased or used by the Department of Defense (DoD) for training and testing operations in support of the global military mission. This same land may also provide habitat for many plant and animal species. Renewable energy projects must be sited and developed compatibly with the military mission and in concert with the protection of our environmental resources in order to produce truly sustainable solutions.

The goal of this primer is to identify key considerations for siting renewable energy projects that could impact the military mission, whether on or outside of military-managed lands. These considerations are intended as informational guidelines for developers and other participants in the renewable energy siting process. They also provide a basis for the further evolution of energy siting policy and the development of decision support tools, such as the Renewable Energy and Defense Geospatial Database (READ Database) that can help further this important dialogue. The READ Database, developed by NRDC in consultation with OSD, is a successful outcome of the collaboration and communication around these siting considerations to date. (More information on READ can be found on page 15 of this primer.)

The development of clean and renewable energy must be done collaboratively, through partnership, communication and information sharing. Our goal is to encourage all stakeholders, from developer to community leader to installation manager, to become informed and get involved in reaching sustainable solutions for all.



The Natural Resources Defense Council (NRDC) is an international nonprofit environmental organization with more than 1.3 million members and online activists. Since 1970, NRDC's lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Livingston, Montana, and Beijing. NRDC's top institutional priority is working to curb global warming and build the clean energy future.

www.nrdc.org

Preface

There is an urgent need to develop our nation's renewable energy to meet consumer demand and address energy infrastructure obsolescence in a way that supports the development of clean, non-polluting energy while protecting ensuring military equities, the environment, and the sustainability of species and their habitats.



The goal of the siting considerations identified and explained in this primer is to provide important information that all parties can use to screen projects for success earlier and more completely by avoiding or mitigating potential conflicts with defense missions or environmental concerns. The siting considerations reflect the perspectives of the Deputy Assistant Secretary of Defense for Readiness (DASD), the Deputy Under Secretary of Defense (DUSD) for Installations and Environment, and the Director, OSD Operational Test & Evaluation (DOT&E), and the NRDC.

OSD and NRDC began their informal discussions in August of 2009. Various other parties contributed ideas and comments throughout the process. By the fall of 2010, a draft set of siting considerations was ready to share with other stakeholders.

The draft was presented and discussed in two separate meetings in 2010. The stakeholders at these meetings represented diverse interests in renewable energy, environment, and government. The first meeting was held in Washington D.C. in August 2010, and the second meeting was held in Denver in December 2010, with support from the Western Governors' Association.

This resulting primer is intended to assist renewable energy developers when choosing a location for renewable energy development, generation, or transmission.

Siting Considerations for Land-Based Renewable Energy Resources

Developing Renewable Energy Sources While Sustaining Military Readiness, Fulfilling Stewardship Responsibilities, Protecting Our Environment, and Enhancing Our Communities

The siting considerations presented here are intended to help inform developers and other stakeholders about military and environmental concerns and priorities they should take into account when deciding where and what kind of projects to site.¹ With regard to developing renewable energy, DoD's highest priority is avoidance or mitigation of any potential mission impacts.

The siting considerations are focused largely toward utility-scale projects² and are intended to address both landscape-scale planning efforts involving such projects and individual project siting efforts. Landscape-scale planning provides an interdisciplinary approach to conservation planning that spans multiple levels of governance and spatial scales.

These siting considerations were developed based on experience in the Western United States (U.S.). However, they can provide useful guidance anywhere in the U.S., with the understanding that considerations for both military missions and species and habitat conservation vary from region to region. They encompass the following energy sources and their associated technologies: wind, solar, and geothermal, including associated infrastructure and energy transmission and storage capabilities.³

This document is limited to land-based renewable energy projects and does not apply to renewable energy development in marine waters such as the outer continental shelf.

¹ These are general siting considerations that are not intended to signal or provide an advance position on, or approval or disapproval, of any individual renewable energy project, or to substitute for individual project review.

² Utility scale projects are large scale projects, such as an electric utility or power company might build, to serve a broad community of users or to sell into the electricity market. The U.S. Department of Energy's Federal Energy Management Program in their May 2012 Draft Federal Renewable Energy Guide defined large-scale renewable energy projects as "energy facilities 10 megawatts or more."

³ Although these siting considerations apply to both renewable energy generation and transmission, there are issues that are unique to transmission that are not fully covered by this document.

Although the following related issues are of interest to many, they are not addressed in this document, yet it is expected that they will be addressed in other forums:

- Engle Act (43 U.S.C. §§155-158) issues arising from the siting of renewable energy on withdrawn lands. The Engle Act is the authorizing statute allowing the military to use designated Bureau of Land Management (BLM) lands in furtherance of the military mission
- The Memorandum of Understanding (MOU) signed July 20, 2012 between the DoD and Department of the Interior “on Renewable Energy and a Renewable Energy Partnership Plan” addressing renewable energy on lands withdrawn for military purposes
- Interests of private property owners and local governments
- Tribal issues, including the Services’ requirement to perform tribal consultation when developing a renewable energy project
- Split estates/subsurface mineral leases⁴

The siting considerations described here apply to renewable energy projects proposed within military-managed lands, as well as those proposed outside military-managed lands (on both private and public property) which could impact the military’s test and evaluation (T&E), training and operational missions.

To ensure that these siting considerations are as robust and comprehensive as possible, inputs continue to be sought from stakeholders in different geographic regions with expertise in these technologies. In addition, these siting considerations would benefit from input regarding impacts on local communities, such as enhanced opportunities for economic development and job creation.

These key renewable energy siting considerations provide a framework for making renewable energy siting decisions which are consistent with military readiness and environmental goals.

Drivers Behind Renewable Energy Siting Considerations: DoD Mission and Environmental Stewardship

Military Effectiveness, Energy Security, Neighboring Communities and Timely Communication

DoD’s overarching goal is to sustain its mission effectiveness. When planning renewable energy development on lands it manages, DoD will ensure that the

⁴ In some cases the legal rights to develop and use the surface of the land are separate from the legal rights to develop and use the subsurface. This is called a split estate, and can lead to conflicts between the owner of the surface rights and the owner of the subsurface rights.

siting does not negatively impact the ability to conduct testing and evaluation, training and operational mission activities.

Military test and evaluation, training and operational mission activities can require large areas of land and dedicated airspace. Modern weapons systems and today's threat environment drive requirements that can exceed the boundaries of DoD-managed lands. Adjacent lands with comparable environmental conditions provide a physical extension of the test, evaluation and training environment, and serve as buffer lands from urban development. Maintaining sound environmental practices to preserve and conserve these important buffer lands is also a means to support DoD's mission.



The Department is committed to addressing energy security as a fundamental part of military planning and acknowledges that careful siting development and operation of renewable energy projects on DoD installations can provide energy security which, in turn, supports the DoD mission. In addition, DoD is supporting development of

renewable energy by using its installations as test beds for the development of the next generation of renewable energy technologies.

The DoD is committed to enhancing communities where its installations are located and personnel and their families live. Environmental stewardship, promoting compatible land use, protecting recreation and open space and protecting endangered species are some aspects of DoD's commitment to enhancing the lives of those that encompass and support military installations. Infrastructure enhancements, such as compatible renewable energy development on those installations and in neighboring communities, can also benefit both the civilian and military populations and activities.

For lands *outside* DoD-managed land boundaries, timely communication amongst all stakeholders, especially between DoD and the renewable energy developer, is imperative to protect both the project and the military mission, if possible.

Therefore, in order to maintain forward progress in renewable energy development, the Department also is committed to:

- Conscientiously providing timely and accurate information to the developer on potential impacts of projects to the DoD mission,
- Providing transparent, well-noticed means for all interested parties to communicate with the appropriate DoD organizations on renewable energy siting matters, and

“The one thing that would move everyone up on the production curve is DoD guidance to take the time and get engaged at the installation, range, city and county level—to be a part of as many conversations as possible in order to contribute to informed and collaborative decision making.”

—Brigadier General
Hanson L. Scott
Director, Office of
Military Base Planning
and Support,
State of New Mexico

Listed immediately below are key considerations designed to assist siting renewable energy compatibly with DoD test and evaluation, training, and operational readiness while protecting the habitat and species.

Key Renewable Energy Siting Considerations

Developing renewable energy is a component of DoD’s drive for energy security, energy conservation, and meeting its greenhouse gas reduction targets. The following six considerations provide a framework for DoD to develop renewable energy on lands it manages, and to be a responsible stakeholder in the development of renewable energy outside its boundaries.

- **DoD is a good steward of natural resources and a responsible stakeholder.** The lands and natural resources managed by DoD have been entrusted to it by the U.S. government on behalf of the citizens of the U.S. to support the military mission. DoD is committed to being a good steward of these assets as well as a responsible stakeholder in land use and resource use decisions within and beyond DoD boundaries.
- **Appropriately sited renewable energy confers benefits.** Appropriately sited renewable energy projects have significant clean energy, greenhouse gas and air pollution reduction benefits, and contribute to achieving Federal/DoD renewable energy policy goals as well as state renewable energy goals, such as state renewable portfolio standards.
- **DoD is committed to reduce energy demand, expand energy supply on-site, enhance energy security and advance new technology.** DoD’s facility energy strategy, designed to reduce energy costs and improve energy security, has four inter-related elements: first and foremost, reduce demand for traditional energy through conservation and energy efficiency; second, expand supply of renewable energy and other distributed (on-base) energy sources; third, enhance installation energy security; and fourth, leverage advanced technology.
- **DoD will manage its renewable energy program by making choices that support its ability to conduct test and evaluation of DoD systems, train its personnel, and operate military capabilities, and further its environmental stewardship on the land it manages.**
- **DoD is a collaborative stakeholder on non-DoD lands.** Renewable energy development, siting, transmission, and use activities involve multiple interests and jurisdictions, and require diligent coordination. DoD

seeks early involvement with a collaborative and consultative approach towards providing feedback on proposed renewable energy projects on lands outside DoD-managed lands which could create an unacceptable risk to national security. DoD's goal for this early engagement to assure mission compatibility is to provide developers and other stakeholders with critical information they can use to avoid wasted investment in energy proposals that are not mutually compatible with the DoD mission or environmental stewardship by, for example, selecting other sites. Other parties are encouraged to take into account these considerations when making siting decisions on all lands, especially those located where renewable energy development could impact the military mission or its environmental responsibilities.

- **DoD retains the option for use of additional lands.** The use of DoD-managed land for siting of renewable energy sources should not imply that DoD has excess land resources and should not preclude DoD from seeking additional lands should future mission needs⁵ require them.

Applying Renewable Energy Project Siting Considerations

DoD's Priorities for Renewable Energy Development on DoD-Managed Lands

The following priorities help ensure that renewable energy development on DoD-managed lands does not compromise mission test and evaluation, training and operational activities or environmental resource protection:⁶

⁵ The military mission for purposes of these siting considerations includes all military readiness activities associated with mission test, evaluation, training, and operational activities on land, in the air, at sea, and through use of the electromagnetic spectrum. The geographic scope includes the U.S. and its territories.

⁶ "Not compromising" does not necessarily mean that a project which would affect these concerns will be prohibited (e.g., a site which would cause some adjustments to flight paths could be approved if the changes do not impair DoD's ability to carry out its mission).

Key renewable energy goals for DoD are to consume 7.5% of electric energy from renewable sources by 2013, and to produce or procure 25% of facilities energy from renewable sources by 2025. DoD also intends to reduce facilities energy intensity by 30% by 2015 and 37.5% by 2020 from a 2003 baseline.

Energy efficiency is an important part of DoD's clean energy strategy, in fact, as stated in the key renewable energy siting considerations, enhancing energy efficiency is the preferred way to meet DoD energy goals.



1. Expanding the supply of renewable energy involves large and small scale projects (e.g., large-scale renewable energy, smaller distributed renewable generation, and rooftop solar). Energy efficiency projects can reduce both greenhouse gas emissions and reduce energy bills. Distributed generation projects such as rooftop photovoltaics can reduce both peak demand and stresses on the electrical transmission and distribution grid. Further, these projects can reduce greenhouse gas emissions at lower costs while having the advantage of creating less of an environmental footprint and being less time-consuming to develop. However, some large-scale renewable energy projects will ensure energy security for military installations while some will also provide renewable energy to the local grid.
2. Development of energy resources in cantonment areas is typically preferred over development on test and training lands because of the likelihood of less interference with test, training, and operations.
3. Projects on military-managed lands should be assessed and evaluated for technology viability and quality during the planning stage and the assessment should evaluate potential interference with military technologies.
4. DoD's priorities for siting renewable energy on DoD-managed lands to preserve mission readiness leads to further prioritization due to a preference for siting in cantonment areas and administrative areas/zones over training air ranges, in the following order:
 - A. **Cantonment areas:** In general, priority should be given to placement primarily in the cantonment area. Within the cantonment area, first consideration should be given to contaminated or potentially contaminated

land (where idle or underutilized industrial sites, existing transmission capacity and infrastructure may be in place), except for explosives- or unexploded ordnance (UXO)-contaminated areas.

- B. **Administrative areas/zones:** Including buffer zones, where the energy technology and transmission do not interfere with the mission.
- C. **Test and Training Air Ranges:** Areas on training air ranges that do not conflict with T&E instrumentation or low level flying (marshaling areas, weapons safety areas, security, etc.).

Project Siting Outside DoD-Managed Lands Which Could Impact the DoD Mission



There are two important categories of siting outside DoD-managed land: lands in proximity to DoD-managed lands; and other lands on which renewable energy could affect the DoD mission.

Lands in Proximity to DoD-managed Lands

Many of the nation’s rich renewable energy sources are located in areas that include lands managed by DoD for the military mission.

This is particularly true in the West but also for other U.S. regions. Therefore, many renewable energy projects will likely be proposed for locations in proximity to military-managed lands. Development of renewable energy should be encouraged where it does not compromise the military mission, sensitive environmental resources, or existing cooperative agreements such as conservation easements.

Other Lands on which Renewable Energy Development could Impact the DoD Mission

Energy development can impact DoD test and evaluation activities, training and operational missions even when the land being considered for generation or transmission is located far from DoD-managed lands. Since renewable energy generation facilities and transmission lines are frequently being proposed in what appears to be open space, or areas of low use, the potential for these developments to impact DoD missions may not be immediately obvious. For example, DoD may fly low-level training routes over lands far removed from a

Time is of the essence—Today, developers are talking directly to county managers and private landowners; DoD must be a part of those dialogues. Having DoD representatives at the table will provide the opportunity for an orderly incorporation of DoD’s requirements in the siting decisions.

DoD installation. These lands may be sparsely populated and little used, which makes them ideal for flying at very low altitude.

Electromagnetic fields created from generation and transmission of power can create interference with radar and other sensors used by DoD. The electromagnetic fields also can interfere with the military's electronic communication. Electromagnetic interference with test and evaluation of weapons is of special concern, especially where weapons and sensor testing and evaluation is being performed in an otherwise pristine electromagnetic environment.

Applying Siting Considerations to Specific Locations: DoD Mission Interests Regardless of Location on or off DoD-Managed Land

DoD will manage renewable energy development on its lands to avoid four broad categories of mission degradation, and will engage as an interested stakeholder to energy development that occurs outside its boundaries to mitigate unwanted effects of renewable energy development located in:

• **Areas that create a safety risk (either to civilian, military or to energy personnel and assets) from DoD activities:**

- Obstructions to flight
- Navigation hazards
- Range and maneuver areas, including weapons impact areas
- Military test and evaluation areas
- Munitions storage and operations area

• **Areas that would create technology interference:**

- Areas where the land-based energy source would cause process interruption either through physical obstruction or through electromagnetic interference, such as interruption to radar, and on-board sensors and frequency jamming capability for training and testing purposes
- Areas where electromagnetic energy from military activities would create interference with renewable energy electronic communication and operations

All new construction within established explosives areas must be reviewed and approved by the DoD Explosives Safety Board (DDESB).

• **Locations which would compromise the quality of military operations or interfere with access to air, land, sea, or space:**

- Under or near Military Training Routes (MTRs) or other access routes to or from training or testing ranges
- Within operational range complexes, including surface danger zones and buffer zones

• **Areas that create a security risk for sensitive military assets:**

- Locations within visual line of sight of sensitive areas
- Project siting or associated activities (construction, maintenance and operations) that could enable video, audio or other electronic surveillance of military activities
- Placement that presents opportunities for physical security breaches

Applying Siting Considerations to Specific Locations: Areas with Low Environmental Conflicts and Areas with High Environmental Conflicts

Protecting the environment and preserving the resilience of our natural resources is important to our nation and to our national defense. As stated earlier, DoD relies on large areas on which to test, train, and conduct its operations. Realistic test and evaluation and training require realistic landscapes upon which to test and train. These landscapes may extend beyond the physical boundaries of DoD-managed lands.

Due to the national significance of protecting our national resources and the national security imperatives for protecting our natural resources, the DoD and NRDC provide the following critical site selection priorities for effective renewable energy planning, regardless of whether the location is on, adjacent to, or near military installations or training ranges.

High Conflict Areas

The following criteria are for areas that are likely to have high environmental conflicts and therefore may not be appropriate for siting renewable projects.

These siting priorities do not replace the need for site-specific analysis and compliance with relevant federal, state, tribal, and local guidelines and requirements. In addition, the cumulative impact of proposed projects on both the DoD military mission and environmental resources should be considered.

High Conflict Areas: Areas that are likely to have high environmental conflicts and therefore may not be appropriate for siting renewable projects

These criteria are intended to minimize resource conflicts as well as public controversies and thereby help meet ambitious renewable energy goals without delay. The criteria are broad and are not intended to serve as a substitute for project-specific review. Nor are they the only criteria that have been developed to help guide renewable energy development to environmentally appropriate places.⁷

These criteria do not represent “go/no-go” restrictions. There may be projects for which the renewable energy potential or the need for renewable energy is so strong that individual developers may decide it is worth attempting to navigate conflicts with military mission and/or environmental resources to see if they can be addressed sufficiently through the development of mitigation measures to allow the project to proceed. However, such projects must be reconciled/de-conflicted with any affected military activities. It is also worth noting that all projects are subject to requirements for minimization and mitigation imposed by the appropriate jurisdiction—federal, state, local or tribal—or private landowners.

Consistent with environmental stewardship responsibilities and cultural resource sensitivities, siting in areas with the following resources will likely generate significant conflicts:

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant populations of federal or state threatened and endangered species;⁸ significant populations of sensitive, rare and special status species such as species of concern identified by state or federal agencies; and rare or unique plant communities identified by governmental entities or others

⁷ See, for example, the recommended guidelines for wind projects that were developed and accepted by consensus by the Wind Turbine Guidelines Advisory Committee appointed pursuant to the Federal Advisory Committee Act. These recommendations may be found at: http://www.fws.gov/habitatconservation/windpower/wind_turbine_advisory_committee.html. While the NRDC-DoD approach differs from the tiered approach developed by the Wind Turbine Advisory Committee, the criteria in this document should be useful to developers who employ the Committee’s guidelines.

⁸ Some listed species have no designated critical habitat or occupy habitat outside of designated critical habitat. Locations with significant occurrences of federal or state threatened and endangered species should be avoided even if these locations are outside of designated critical habitat or conservation areas in order to minimize take and provide connectivity between critical habitat units. The term “significant populations” will be defined in other sources and by independent judicial decisions.

- Locations which adversely impact avian populations (especially migratory birds and raptors) and bats, or important habitat areas including flyways, migration routes and raptor concentration areas
- Areas that have been specially designated for conservation by land management agencies or other government agencies, including Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, National Forest Roadless Areas and Conservation Reserves included in proposed and final habitat conservation plans and other comparable plans
- Lands purchased for conservation including those conveyed to the federal government by third parties
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes⁹
- Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas that are publicly noticed at the time the project is proposed¹⁰
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands¹¹
- Floodplains, especially 100 year flood plains
- Areas with limited water when siting solar panels that require water for washing the panels
- Sites that have been publicly identified as eligible for the National Historic Register at the time a renewable energy project is proposed

⁹ Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaption corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas.

¹⁰ Proposed Wilderness Areas: lands proposed by a member of Congress to be set aside to preserve wilderness values. The proposal must be: 1) introduced as legislation, or 2) announced by a member of Congress with publicly available maps. Proposed National Monuments: areas proposed by the President or a member of Congress to protect objects of historic or scientific interest. The proposal must be 1) introduced as legislation or 2) announced by a member of Congress with publicly available maps. Citizens' Wilderness Inventory Areas: lands that have been inventoried by citizens groups, conservationists, and agencies, found to have "wilderness characteristics" as defined in the federal Wilderness Act, and the lands have been publicly identified.

¹¹ The extent of upland habitat that needs to be protected is sensitive to site-specific resources. Upland habitat includes land adjacent to water up to grasslands or a tree line.

Low Conflict Areas: *Those lands where the natural or cultural resource values have been degraded or disturbed or because they are already in use for purposes such as agriculture, which may be consistent and compatible with the siting of renewable energy facilities.*

- Sites protected under the Archeological Resources Protection Act of 1979
- Locations directly adjacent to National or State Park units¹²
- Native American and other cultural sites

Low Conflict Areas to Prioritize

Other lands have characteristics which make them better sites for renewable energy development because the natural or cultural resource values of these lands have been degraded or disturbed or because they are already in use for purposes such as agriculture that may be consistent and compatible with the siting of renewable energy facilities. Choosing these lands over those that offer more natural or cultural resource value preserves the protected values while adding new value through renewable energy. However, in some cases the location of the degraded lands can place the energy facility in a position to interfere with military test, training, or radar surveillance activities, rendering them locales with high potential for conflict, despite the disturbed state of the land. With those qualifications in mind, these areas will tend to be environmentally preferable sites for renewable energy:

- Lands that have been mechanically disturbed (i.e., locations that are degraded and disturbed by mechanical disturbance)¹³
- Lands that have been “type-converted” from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use), including lands currently abandoned from these activities
- Lands that have been contaminated or are potentially contaminated, except for explosives- or unexploded ordnance (UXO)-contaminated areas
- Lands of comparatively low resource value located adjacent to degraded and impacted private lands with few natural or cultural resource conflicts
- Locations adjacent or proximate to load centers or urbanized areas. Communities dependent on tourism for their economic survival may not be suitable for renewable energy development unless they welcome renewable energy projects to their region
- Areas that would minimize workforce commute and associated greenhouse gas emissions

¹² In the West, the definition “directly adjacent” includes facilities within two miles of national or state park units. In other landscapes facilities may be sited closer to national or state park units without significant controversy and may need to be in order to meet state renewable energy goals.

¹³ Naturally disturbed lands (e.g., due to wildfire or erosion) are not preferred because they likely still retain their natural values.



It is imperative for DoD Stakeholders to become familiar with the renewable energy development perspectives and processes for their own state in order to facilitate progress in seeking mutual benefits for all stakeholders in each proposed project.

- Areas proximate to sources of municipal wastewater or other degraded or compromised water sources for use in the cleaning process for solar panels
- Locations that minimize the need to build new roads and/or new transmission lines
- Locations that could be served by existing substations and transmission lines
- Locations adjacent to existing federally designated transmission corridors with existing major transmission lines¹⁴

Stakeholder Involvement

DoD believes that stakeholder involvement is vital to this process. Two of the six key renewable energy considerations speak to the importance of DoD's participation as an active stakeholder in the siting process.

To ensure that project siting decisions engage critical stakeholders early in the process (and thus avoid the situation of late-notice barriers), project developers should coordinate with the following organizations, while the project location is still in the idea stage:

¹⁴ Projects should generally be sited near existing transmission corridors and lines. Expanding corridors or locating new transmission lines near such corridors or lines is environmentally preferable to creating new corridors or constructing new lines across landscapes.

- DoD Siting Clearinghouse
- Applicable Military Services/Components
- State authorities, in particular state fish and game agencies and State Historic Preservation Officers
- National and local environmental and conservation groups with expertise in siting and/or familiarity with local resources
- Cultural and historic resource experts
- Tribal governments and Tribal Historic Preservation Officers
- In addition, guidance on siting and constructing electric transmission infrastructure is found in the Memorandum of Understanding Regarding Coordination in Federal Agency Review of Electric Transmission Facilities on Federal Land between DoD, BLM, Department of Energy, and other federal agencies. The MOU can be found at the site <http://www.ferc.gov/legal/maj-ord-reg/mou/mou-transmission-siting.pdf>

DoD seeks early involvement with stakeholders. DoD's goal for this early engagement is to provide developers and other stakeholders with critical information they can use.

In order to gauge compatibility of their project with military missions, renewable energy project proponents are strongly encouraged to reference *Title 32, Part 211 of the Code of Federal Regulations, "Mission Compatibility Evaluation Process,"* which provides guidance to industry, tribes, state and local government, and the public on how to request informal early evaluations of proposed renewable energy projects from the DoD Siting Clearinghouse. There are several tools available through the Clearinghouse that can help the evaluation process, such as the READ Database, and additional information is also available from <http://www.acq.osd.mil/dodsc/> or contact the Clearinghouse at DoDSitingClearinghouse@osd.mil.



The Road Ahead: DoD's Development of Renewable Energy Management Policies

The Office of the Secretary of Defense (OSD) and its Military Components are in the process of developing policies and procedures that will ensure consistent application of siting considerations and priorities across the almost 28 million acres of federal land managed by DoD.

OSD and the Military Services are working to develop energy infrastructure siting policies that preserve, sustain and foster good stewardship of the land, air, sea, or space resources that are used by, or entrusted to, the DoD for military readiness purposes. These siting considerations contribute to that effort, and serve as a starting point for coordination and collaboration with the diverse set of stakeholders in this area.

A Proactive Planning Tool for Renewable Energy Developers

*The Renewable Energy and Defense Geospatial Database
(READ Database)*

The NRDC's Renewable Energy and Defense Geospatial Database (READ Database), developed in consultation with the DoD Siting Clearinghouse and the Director of Training and Readiness over a two-year period, provides publically available data to renewable energy developers to assist in identifying potential conflicts with DoD's training and readiness mission at the earliest possible point in the siting process. The READ Database provides Geographic Information Systems (GIS) data and analytical capabilities relevant to assessing this compatibility as part of renewable energy prospecting and initial site assessment. The intended users of the READ Database are renewable energy developers and other renewable energy stakeholders (e.g., states, local governments, environmental organizations).

NRDC owns the READ database and is solely responsible for its content. The defense-related information used by NRDC to develop this on-line tool was compiled from open sources and from unclassified geospatial data provided by the DoD. This information may not be current and does not necessarily reflect the official policy of the DoD or the U.S. Government, and should be used for preliminary planning purposes only. If use of this tool indicates an intersection of your planned project and a DoD equity, you should contact the DoD Siting Clearinghouse at dodsitingclearinghouse@osd.mil. Indeed, DoD encourages all renewable energy developers to contact the DoD Siting Clearinghouse as early as possible in the siting process.

For more information on the READ Database, please go to www.nrdc.org/energy/readgdb.asp, or contact Matthew McKinzie of the NRDC at mmckinzie@nrdc.org.

“This is, for the first time, a really good, comprehensive look at all these different intersecting interests. With this tool, a developer can greatly minimize the chance that they will have some compatibility issues with DOD or from an environmental perspective.”

—Frank DiGiovanni,
Director, Training
Readiness and Strategy,
Office of the Deputy
Assistant Secretary of
Defense (Readiness)

Conclusion

Development of renewable energy sources, conservation of energy, protection of military mission capabilities, and protection of our natural resources are all national priorities. These considerations for siting renewable energy systems provide valuable information to all involved in reaching workable solutions. Collaboration amongst all stakeholders in this process helps ensure that we meet our military and civilian needs while seeking energy independence and protecting our environment.

