



# Mission Compatible Renewable Energy: An Evolving Process

## Desert Managers Group

20 Oct 2011

**DeEllen Brasher**

**DoD Regional Environmental  
Coordination Officer**

**Navy Region Southwest**





# Outline

- **DoD REC Role**
- **Renewable Energy Concerns**
- **DoD Southwest Renewable Energy Work Group Video**
- **DoD SW REWG Update**
  - **Tools**
    - RYG
    - MCAT
  - **New Processes Focusing on Renewable Energy**
    - OSD Level: DoD Energy Siting Clearinghouse
    - Service HQ Level: Navy CNO and Other Services
    - Regional Level: DoD Southwest Renewable Energy Work Group (SW REWG)
    - Local Level: CPLO new encroachment policies/tools and installations
- **DoD Siting Clearinghouse Update**
- **Importance of Interagency Collaboration**
  - DoD/Military Protection Language Inserted in Planning Documents
  - Cooperating Agency Status
- **Solutions and Looking Forward**



# America's Military Missions

We train...



test...



operate...

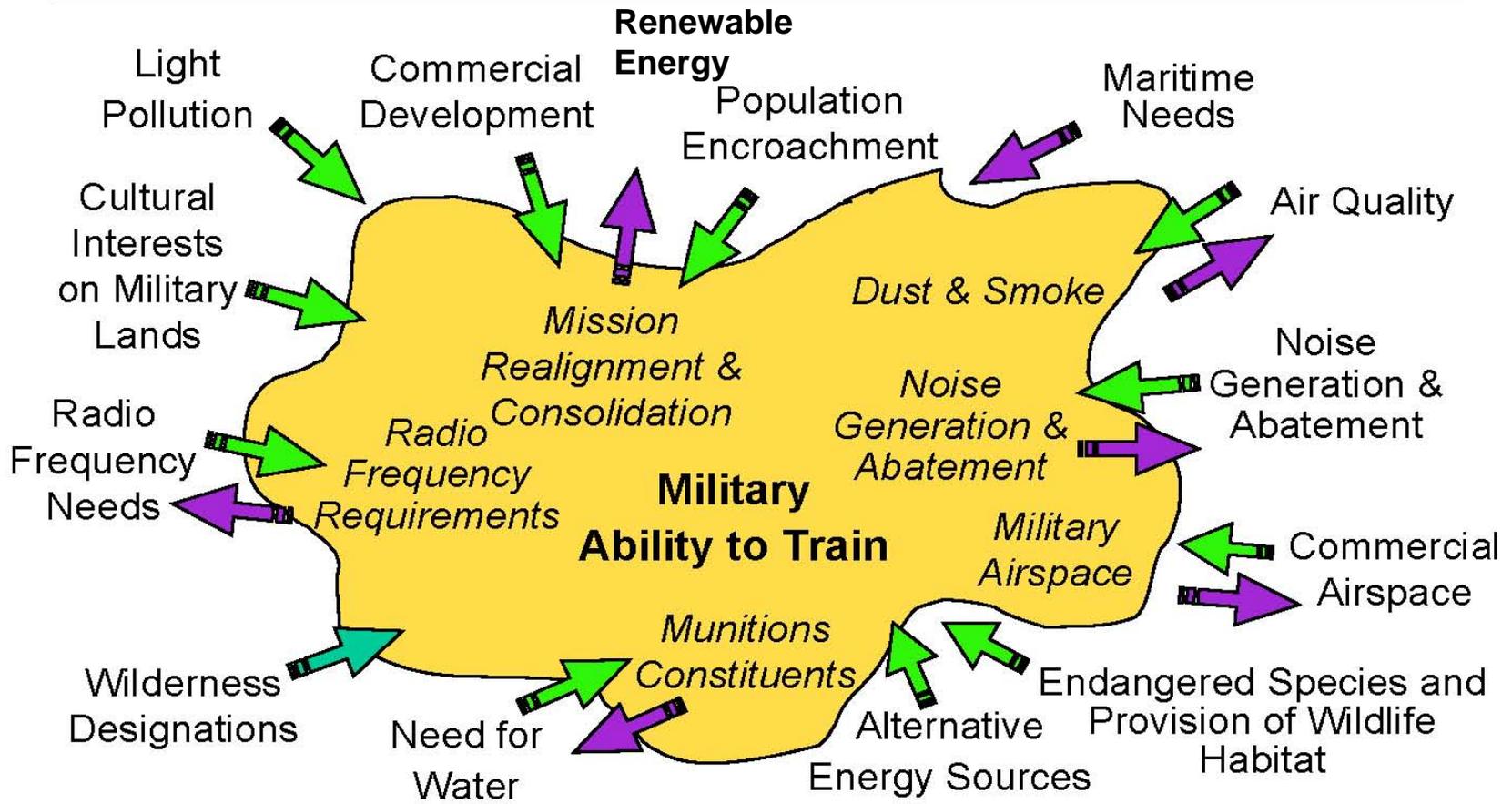


and defend.





# ENCROACHMENT PRESSURES Work Both Ways



***Reduced Flexibility for the Military and the Community<sup>5</sup>***



# DoD REC Role

## Program

- Regional Environmental Coordination (REC) program established by DoD Instruction that assigns responsibilities for the establishment and operation of the REC program within the DoD (DoDI 4715.02, Updated August 28, 2009)

## ***Mission***

*“To protect the military’s ability to prepare U.S. servicemen and women to defend our country by working cooperatively with state governments and federal agencies on environmental related issues to ensure continued access and use of the necessary land, sea, and airspace.”*



# Western REC Points of Contact

## REC 6; Air Force Central Regional Environmental Office

Mr. Thomas M. Manning, Director

[Thomas.manning@brooks.af.mil](mailto:Thomas.manning@brooks.af.mil) (214) 767-4650

Dr. Thomas H. Rennie – AO

[thomas.rennie@brooks.af.mil](mailto:thomas.rennie@brooks.af.mil) (214) 767-4678

## REC 8; Army Office of Regional Environmental and Governmental Affairs

Mr. Mark Mahoney, Director

[mark.a.mahoney@us.army.mil](mailto:mark.a.mahoney@us.army.mil) (303) 844-0956

Ms. Cathy Atkins – AO

[cathy.atkins1@us.army.mil](mailto:cathy.atkins1@us.army.mil) (303) 844-0956

## REC 9; Navy Region Southwest Environmental Director

Ms. DeEllen Brasher

[deellen.brasher@navy.mil](mailto:deellen.brasher@navy.mil) (619) 532-2303

Mr. Anthony Parisi – AO

[anthony.parisi@navy.mil](mailto:anthony.parisi@navy.mil) (805) 989-9209

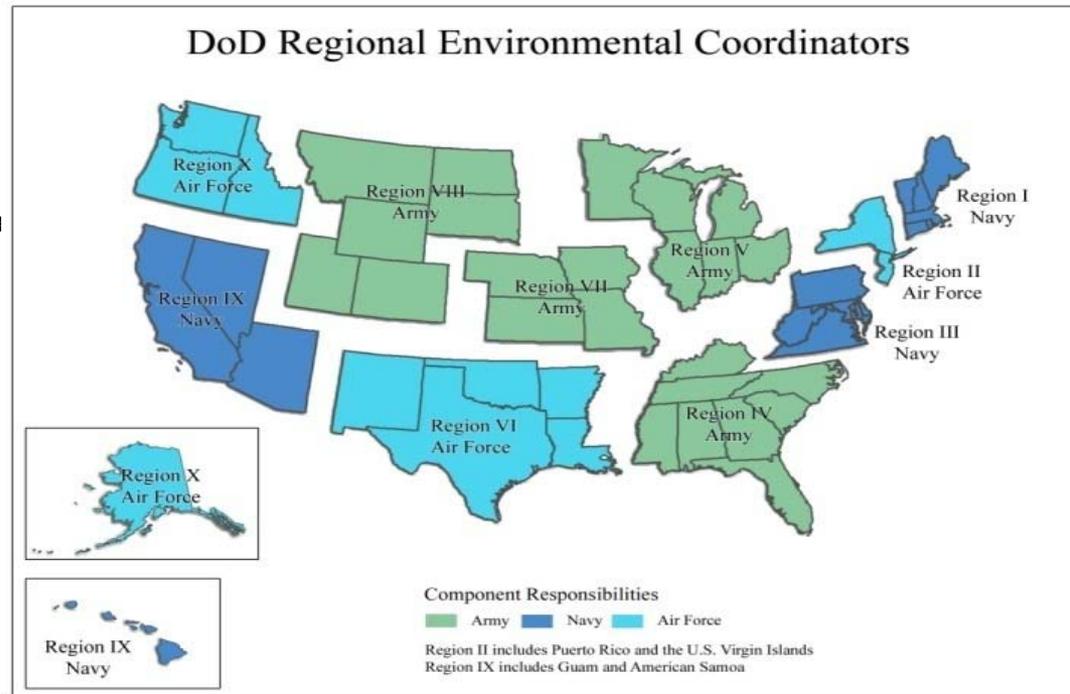
## REC 10; Air Force Western Regional Office

Ms. Clare Mendelsohn, Director

[clare.mendelsohn@us.af.mil](mailto:clare.mendelsohn@us.af.mil) (415) 977-8849

Gary Munsterman – AO

[gary.munsterman@us.af.mil](mailto:gary.munsterman@us.af.mil) (415) 977-8884





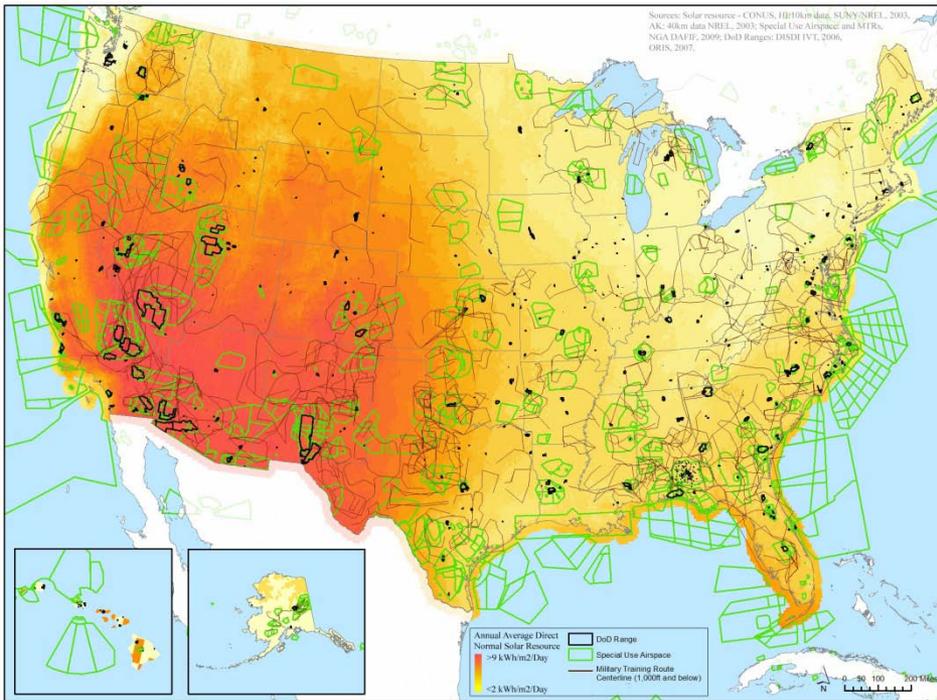
# REC Participation in Regional Stakeholder Forums

- **San Diego Area Governments (SanDAG)**
- **California Chamber of Commerce**
- **California League of Cities**
- **Arizona Commanders Summit**
- **Arizona Military Affairs Council**
- **California Biodiversity Council**
- **California Governor's Military Executive Council**
- **Council of State Governments**
- **Department of Defense Range Sustainability**
- **Desert Managers Group**
- **DoD Region 9 Air Quality Working Group**
- **DoD Region 9 Energy Working Group**
- **DoD Region 9 Water Working Group**
- **Joint Military Affairs Commission (JMAC),**
- **Mojave Commanders' Summit**
- **Council of State Legislatures (NCSL)**
- **Desert Renewable Energy Conservation Plan (DRECP)**
- **Range Environmental Vulnerability Assessment (REVA)**
- **RETI Working group**
- **San Diego Military Affairs Council (SD MAC)**
- **Western Council of State Governments**
- **Western Governors Association (WGA)**
- **Western Region Air Partnership**
- **Western Regional Partnership (WRP)**
  - **Western Regional Partnership Border Subcommittee**
  - **Western Regional Partnership Disaster Preparedness Subcommittee**
  - **Western Regional Partnership Energy Subcommittee**
  - **Western Regional Partnership Geographical Information System (GIS) / Mapping Subcommittee**
  - **Western Regional Partnership Land Use Subcommittee**
  - **Western Regional Partnership Wildlife Corridors, Critical Habitat, and Threatened and Endangered Species Subcommittee**

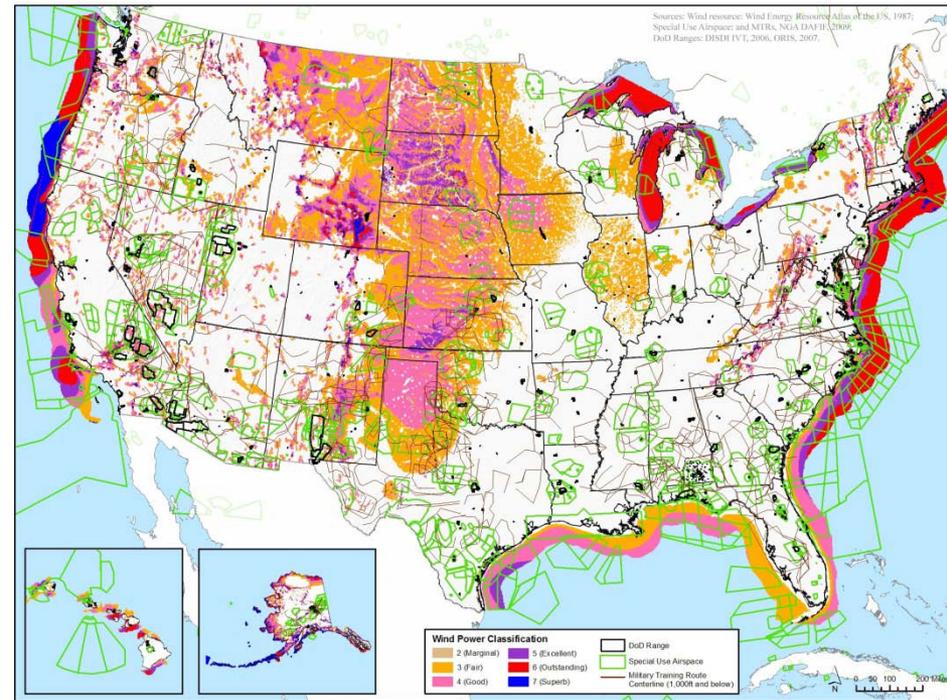


# Where Are the Resources?

U.S. Solar Resource and DoD Ranges and Special Use Airspace



U.S. Wind Resource and DoD Ranges and Special Use Airspace



# Military Training Routes (MTRs)



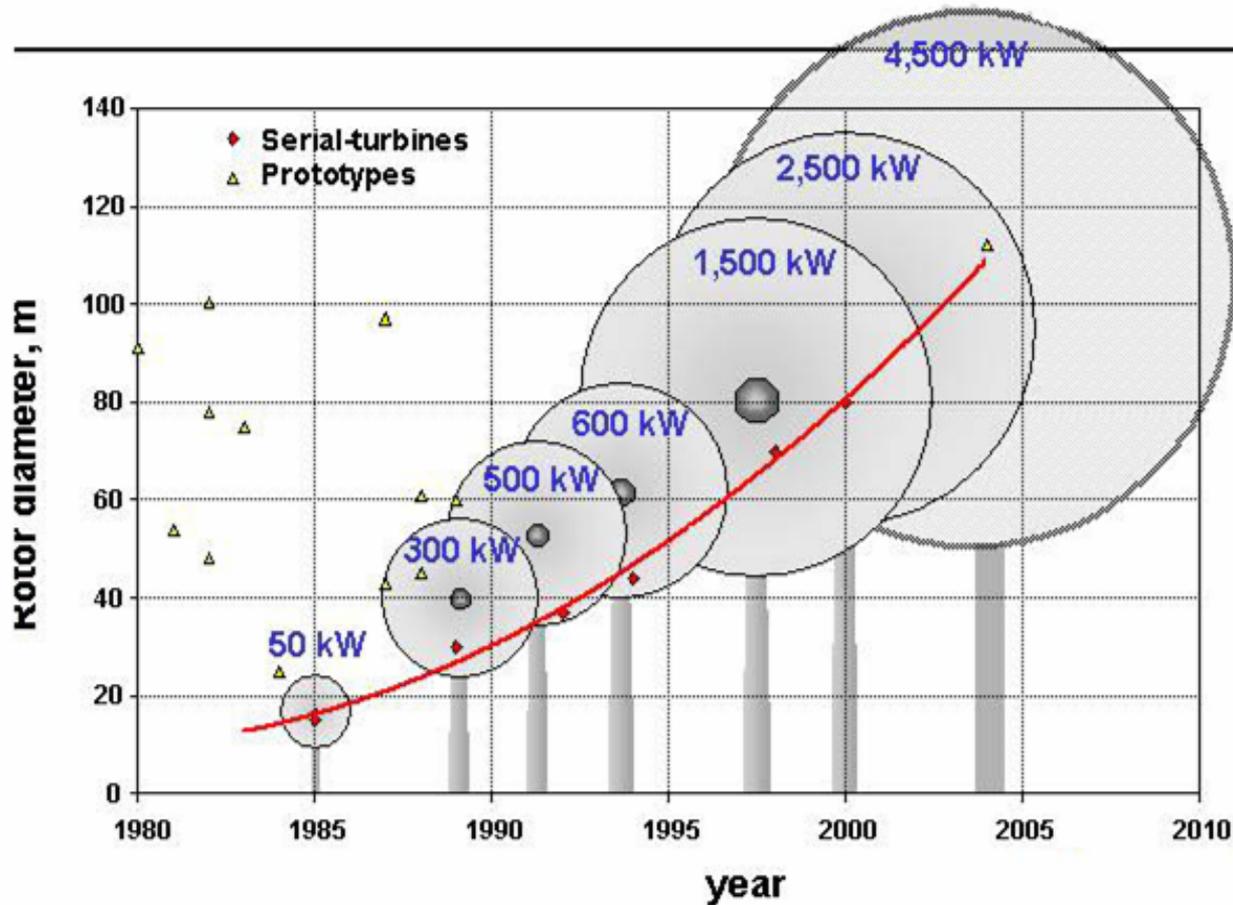


# Wind Energy Concerns

- Low-level aviation testing & training
  - Special Use Airspace
  - Military Training Routes
  - Other (i.e. helicopter training routes)
- Radar/Electromagnetic Interference
- Department of Defense National Security Long Range Radars



# Wind Turbines Continue to Grow Larger...Taller...more Productive





# Current Wind Turbine Technology

## Wind turbine technical data

- Tower Height: ~328 ft
- Rotor Diameter: ~361 ft
- Rated Capacity: ~ 3 MW
- Cut-in wind speed: ~6.8 kts
- Cut-out wind speed: ~52 kts
- Rated wind speed: 27 kts
- Rotor speed: 8.5 – 15.3 rpm
- Blade tip speed: ~170 kts
- Technical data obtained from GE Wind

*Energy web page: ([www.gewindenergy.com](http://www.gewindenergy.com))*

*Technical data for information only, does not represent actual  
installed or planned wind turbines*



# Solar Energy Concerns

- Height issues depending on technology
- Glare?
- Water consumption
- Significant land impacts
  - Habitat
  - Additional pressure on DoD lands
  - Limits expansion



President Obama at Nellis AFB



# DoD Southwest Renewable Energy Work Group Video

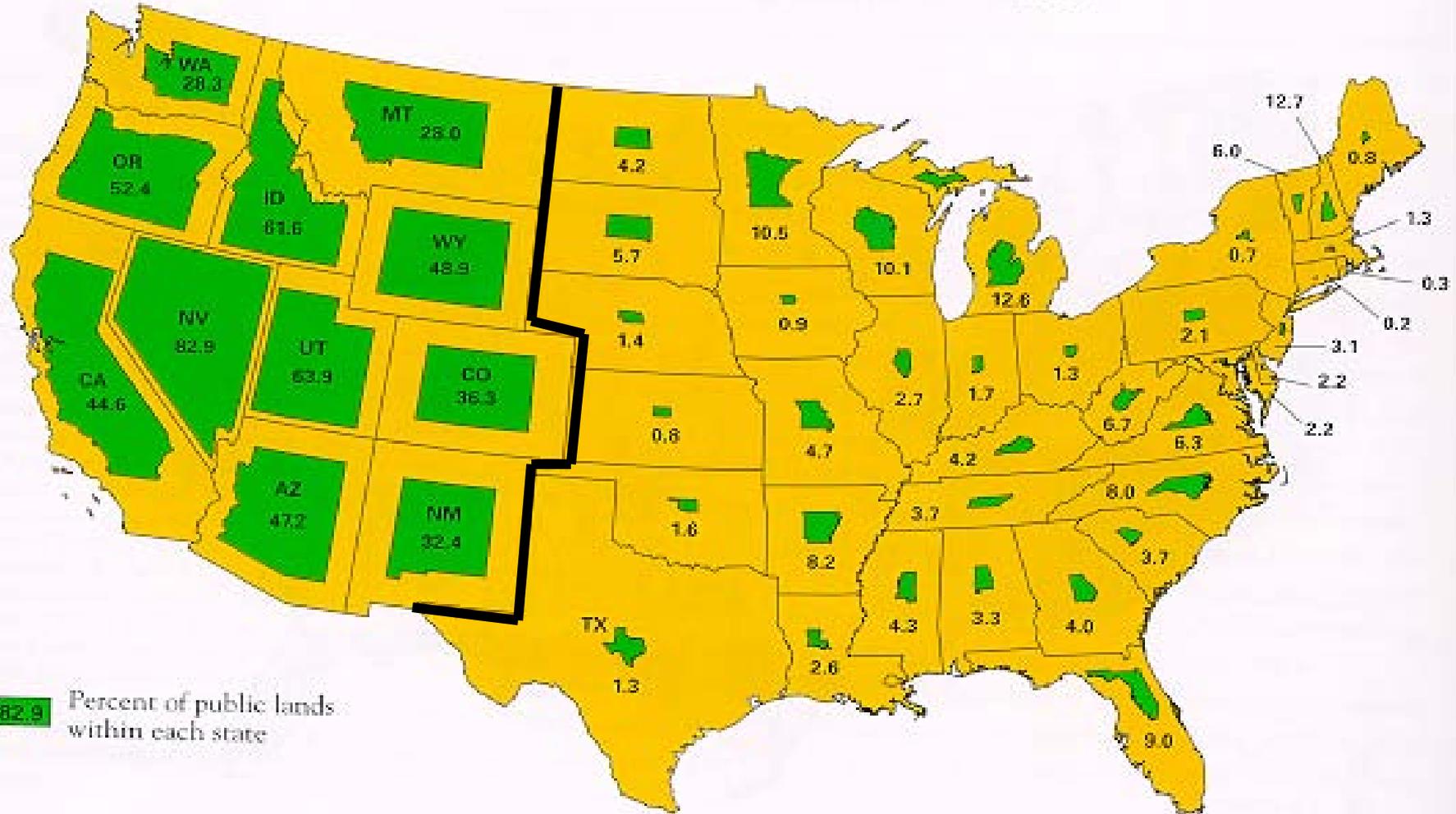


# DoD's Southwest Renewable Energy Working Group

- Established in 2003 to protect military mission; maintain access to critical land, sea, and air space; and ensure non-interference with radar sensors while supporting renewable energy development
  - Proactive multiservice process to manage energy development by evaluating projects EARLY in the planning process
  - Regular meetings with various BLM state and field offices and other land management agencies
  - Screening tool development serving as model for others
  - Hundreds of projects evaluated; approximately 70% no impact to military mission
  - Methods employed nationally and memorialized in CY2008 MOA w/BLM
- Successful showing energy issues are manageable with proactive, early engagement and available tools



# Public Lands in the "New West"



**\*Atlas of the New West, Portrait of a Changing Region, 1997**



# Existing Guidance

- **PURPOSE:** Improve communication and coordination for proposed wind energy applications on BLM-administered lands
- **GOAL:** Promote wind energy development on BLM-administered public lands in manner compatible with military activities

WIND ENERGY PROTOCOL  
BETWEEN  
THE DEPARTMENT OF DEFENSE  
AND  
THE BUREAU OF LAND MANAGEMENT  
CONCERNING CONSULTATION ON DEVELOPMENT  
OF  
WIND ENERGY PROJECTS AND TURBINE SITING ON PUBLIC LANDS  
ADMINISTERED BY THE BUREAU OF LAND MANAGEMENT  
TO  
ENSURE COMPATIBILITY WITH MILITARY ACTIVITIES

July 2008

## I. PURPOSE

With the signing of the Wind Energy Protocol (Protocol), the Department of Defense (DOD) and the Department of the Interior, Bureau of Land Management (BLM), hereinafter referred to as the "Agencies," commit to work together to facilitate compatible land use through cooperative planning of wind energy projects on BLM-administered lands. Public lands withdrawn for military uses are outside the scope of the Protocol. Specific statutory and regulatory processes govern any request to use withdrawn lands for purposes other than military purposes. The purpose of the Protocol is to improve the communication and coordination process between BLM and DOD in the review of proposed wind energy right-of-way (ROW) applications on BLM-administered public lands. The Protocol will facilitate the timely processing of wind energy right-of-way applications and provide for the appropriate use of public lands for the development of wind energy resources. The ultimate goal of the Protocol is to promote long term wind energy development on BLM-administered public lands in a manner compatible with military activities.

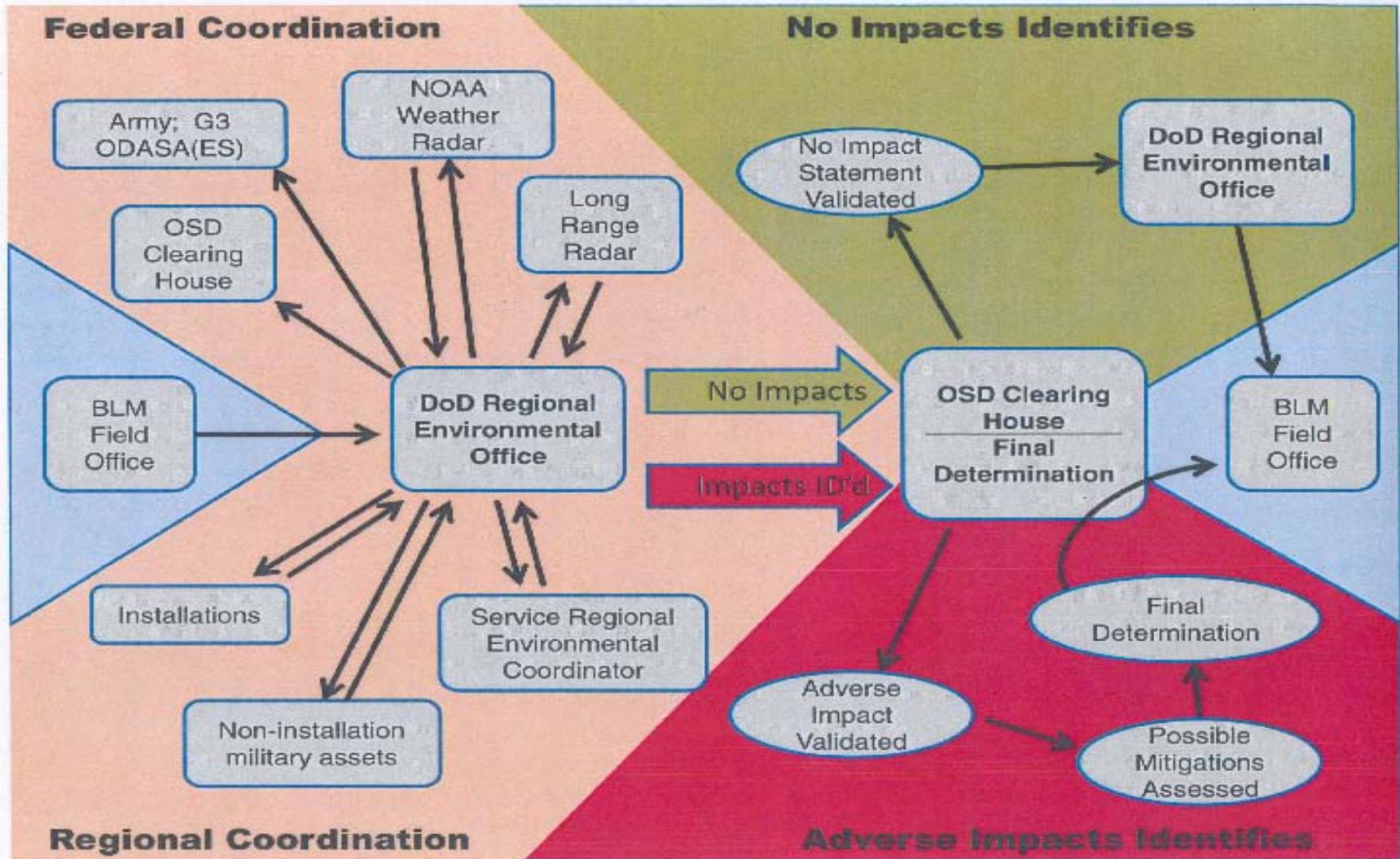
Specifically, the Protocol:

1. Establishes a process for DOD's review of and comment on proposed wind energy applications on BLM-administered public lands.
2. Provides a process to develop mitigation measures to minimize impacts on military activities and to increase opportunities for wind energy developers to utilize high value wind energy sites on public lands in the Western United States.

The Protocol recognizes that comments provided by DOD on any proposed wind energy project on public lands are recommendations and that the BLM has the ultimate responsibility for the allocation of land uses on public lands and retains the decision authority regarding applications for the use of the public lands. However, BLM fully acknowledges DOD's vital national security mission and commits to work closely with



# DoD/BLM Protocol





# Existing Guidance

- **Purpose:** Expedite siting and construction of qualified electric transmission infrastructure in US
- **Goal:** Coordinate federal land management agencies procedural requirements and legal mandates and designate single federal POC



## MEMORANDUM OF UNDERSTANDING AMONG THE

U.S. DEPARTMENT OF AGRICULTURE, DEPARTMENT OF COMMERCE, DEPARTMENT OF DEFENSE, DEPARTMENT OF ENERGY, ENVIRONMENTAL PROTECTION AGENCY, THE COUNCIL ON ENVIRONMENTAL QUALITY, THE FEDERAL ENERGY REGULATORY COMMISSION, THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND DEPARTMENT OF THE INTERIOR, REGARDING COORDINATION IN FEDERAL AGENCY REVIEW OF ELECTRIC TRANSMISSION FACILITIES ON FEDERAL LAND

### I. PURPOSE

The Department of Agriculture (USDA), Department of Commerce (DOC), Department of Defense (DoD), Department of Energy (DOE), Environmental Protection Agency (EPA), Council on Environmental Quality (CEQ), Advisory Council on Historic Preservation (ACHP), Department of the Interior (DOI), and the Federal Energy Regulatory Commission (FERC) ("Participating Agencies" or "Participating Agency," as appropriate), enter into this Memorandum of Understanding (MOU) to expedite the siting and construction of qualified electric transmission infrastructure in the United States. As described below, this MOU improves coordination among project applicants, federal agencies, and states and tribes involved in the siting and permitting process. It will improve uniformity, consistency, and transparency by setting forth the roles and responsibilities of these entities when project applicants wish to construct electric transmission infrastructure. In addition, this MOU provides a single point of contact (POC) for coordinating all federal authorizations required to site electric transmission facilities on federal lands, which include interests in land administered by the Participating Agencies.

This MOU supersedes the August 8, 2006, MOU signed by the Participating Agencies. This MOU does not apply to transmission lines that cross the U.S. international border, federal submerged lands, national marine sanctuaries, or the facilities constructed by federal Power Marketing Administrations. Nothing in this MOU will affect the FERC's jurisdiction to license hydroelectric facilities and the appurtenant transmission lines under Part I of the Federal Power Act (FPA).

Through this MOU, the DOE implements its authority under section 216 of the Federal Power Act (FPA), as amended by section 1221(a) of the Energy Policy Act of 2005, to designate a Lead Agency to: (1) serve as the point of contact for applicants, state agencies, Indian tribes, and others regarding proposed projects; (2) coordinate preparation of unified environmental documentation that will serve as the basis for all federal decisions necessary to authorize the use of federal lands for Qualifying Projects as defined in Section III; (3) coordinate all federal agency reviews necessary for project development and siting, including the Bald and Golden Eagle Protection Act, the Clean Air Act (CAA), the Clean Water Act (CWA), Coastal Zone Management Act (CZMA),

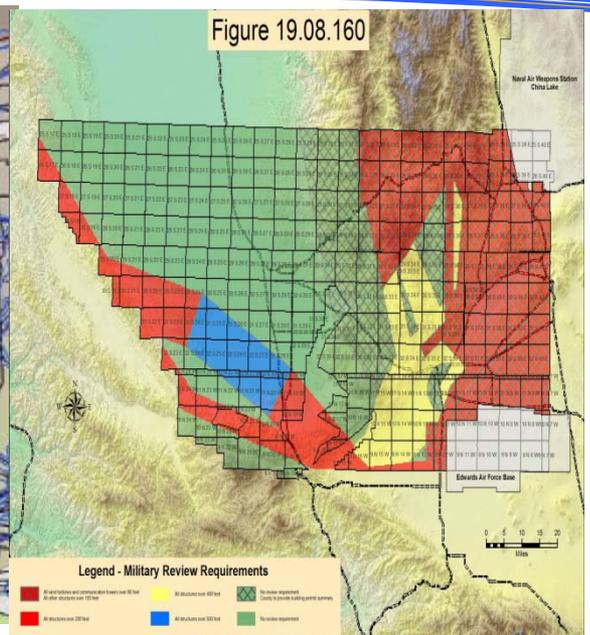
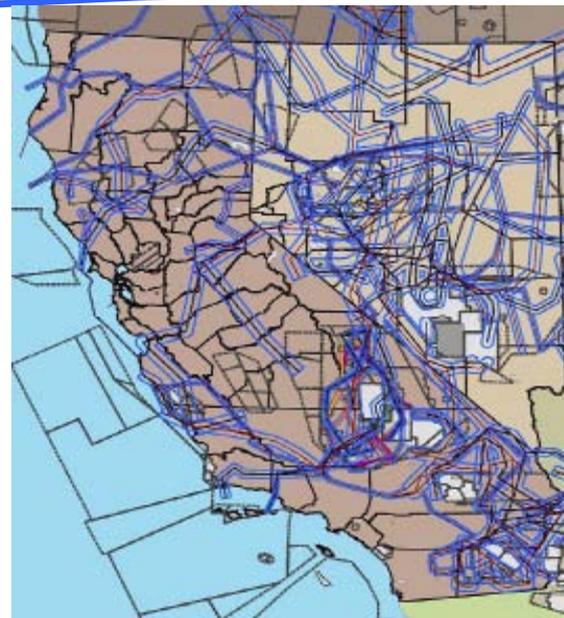


# Military Approved Language for Land Management Plans

"Department of Defense entities in the state of concern request notification to coordinate and consult with the military during the earliest stages of permitting or authorization processes. This early coordination is to jointly analyze and mitigate any impacts to current and future military training missions including; Military Operating Areas (MOAs), Military Training Routes (MTRs), air space, and ground access, when making any land use decisions at the earliest possible time to minimize impacts to current and future military mission uses. Examples of land uses that could impact the military mission include, but are not limited to, recommendations for wilderness designation, habitat improvement projects, environmental restoration projects, public utility development (e.g., erection of cell phone towers, electrical transmission lines, wind energy towers and solar array towers), large mining development, recreational development (e.g., campgrounds, visitor centers), and land exchanges for the purpose of facilitating the preceding land uses."



# Working with Agencies and Wind Industry: Red-Yellow Green Stoplight Concept



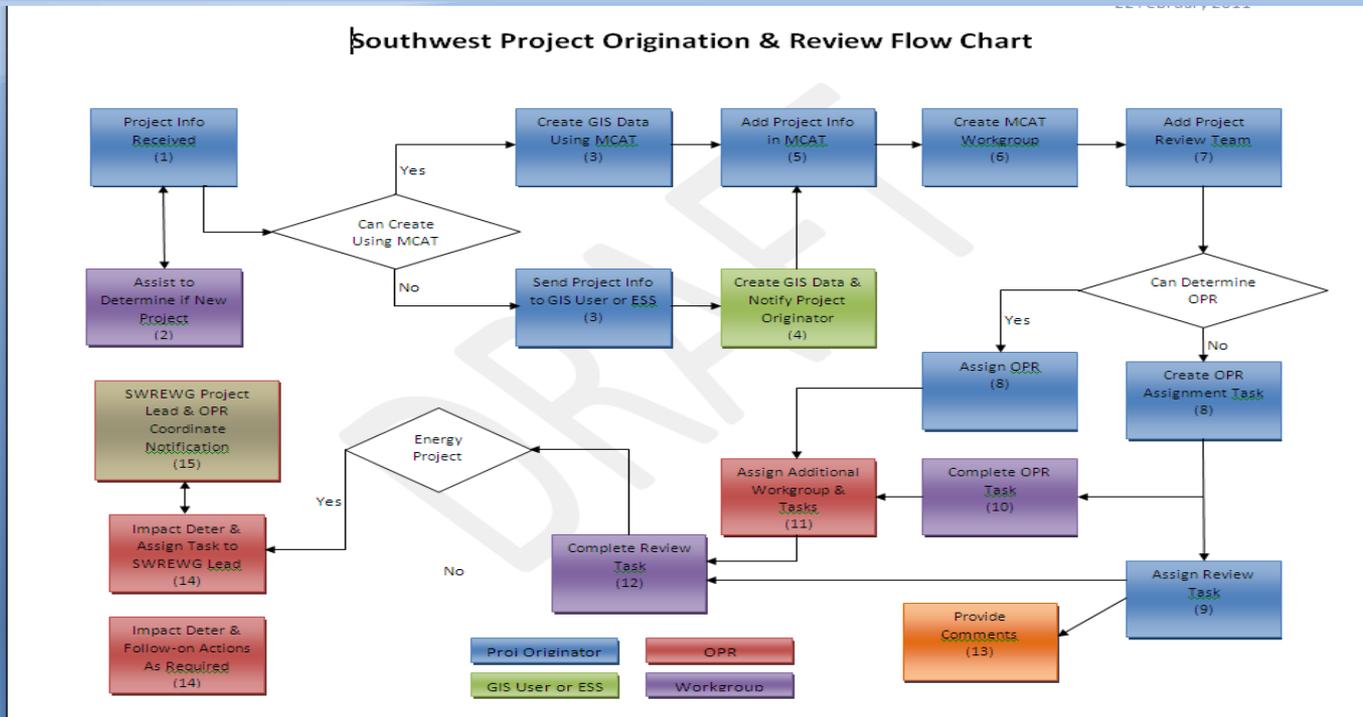
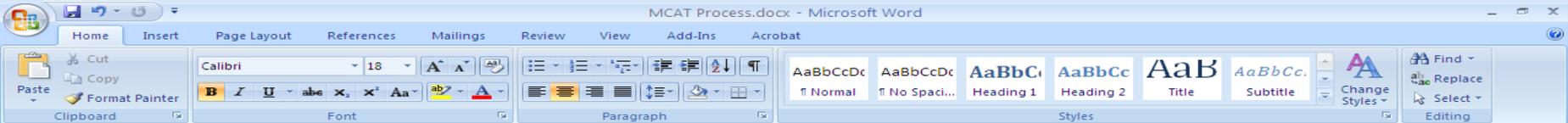
- Protects our **CRITICAL** operating areas
- Provides industry clear understanding of military impacts
- Reduces friction within region
- Simplifies issue
- Reduces workload
- Provides model for other areas



# Mission Compatibility Awareness Tool

WLFISD003212

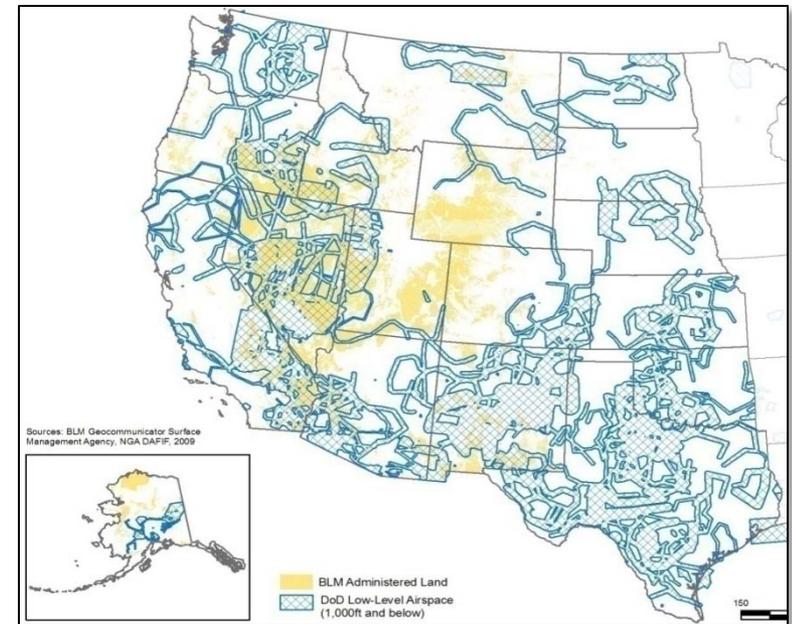
Unclassified





# Best Management Practices and Opportunities

- Single Point of Contact
- EARLY Project Engagement – Save money and Time
- R-Y-G mapping (screening tools)
- Mission Compatibility Analysis Tool
- Coordinated reviews
- Single consolidated response
- Outreach at multiple levels
- Regional planning engagement
- DoD Siting Clearinghouse created to address internal gaps.
  - Internal review transparency
  - Data repository/Interactive mapping tools
  - Defined engagement strategy for private lands
  - Clear justification for immitigable effects
  - Guidance for viable mitigation
  - Assessment/prioritization of airspace assets required for current/future mission



**BLM Land and Low-level Airspace**

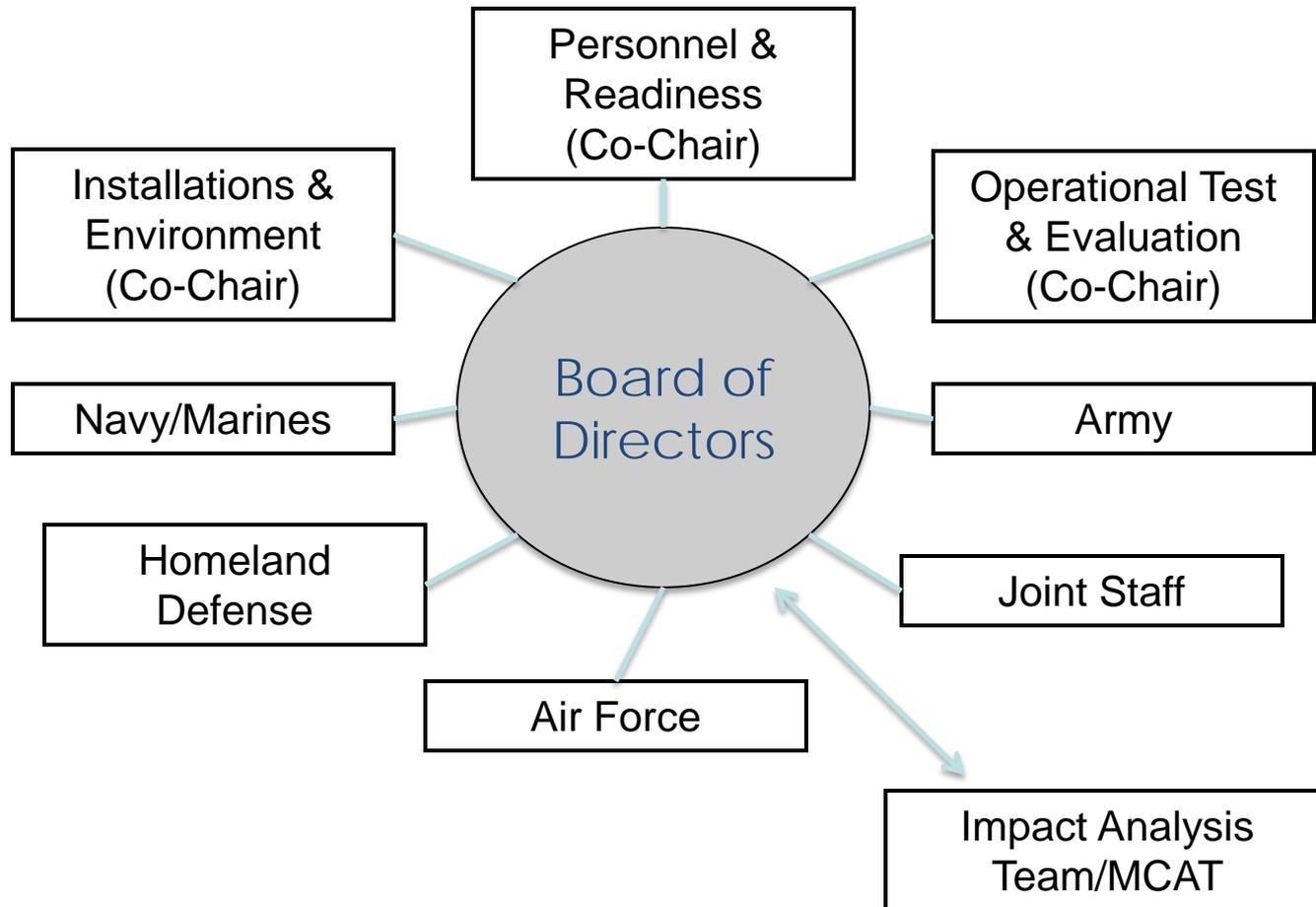


# Establishment of DoD Siting Clearinghouse

- DoD responses to renewable energy projects
  - Shepherd’s Flat Wind Farm - DoD was not prepared
- NDAA 2011 (enacted 7 Jan 11): Congressional guidance for more DoD action
  - Section 358 “Study Of Effects Of New Construction Of Obstructions On Military Installations And Operations”
- The DoD Siting Clearinghouse: Organization and Concept of Operations



# DoD Siting Clearinghouse

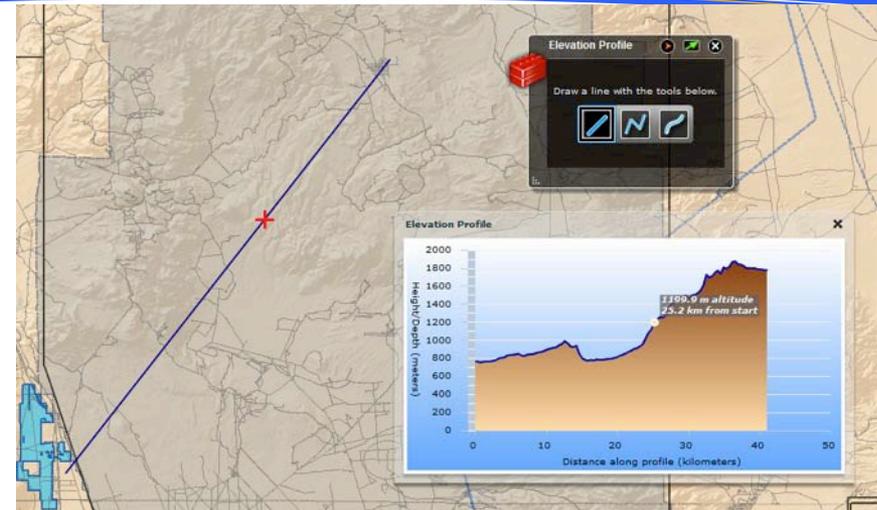




# DoD Siting Clearinghouse

## Organization and Tools

- Mission Compatibility Review Team
- Mission Compatibility Awareness Tool (MCAT)
- Operational Impact Assessment Tools





# DoD Siting Clearinghouse

## Phase I Backlog:

- Review of backlog including 249 energy projects the Clearinghouse designated as red, yellow, or green based on impact to military mission and ability to mitigate
- Exploring mitigation strategies for several “red” projects

## Phase II Backlog

- Coordinating the review of additional backlog energy projects for potential impacts to military mission Phase II “green” list review of 202 projects completed on 2 September 2011
- Awaiting release of Phase II “red” and “yellow” list reviews
- Continuing to improve coordination and evaluation processes to support reviews of energy projects as directed by NDAA 2011 Section 358 and the OSD Siting Clearinghouse



# Service Headquarters Processes Changing

16 Sep 2011 – Chief of Naval  
Operations Policy



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
2000 NAVY PENTAGON  
WASHINGTON, DC 20350-2000

IN REPLY REFER TO:  
5090  
Ser N4/11U156063  
16 Sep 2011

From: Deputy Chief of Naval Operations (Fleet Readiness and  
Logistics)  
To: Distribution

Subj: PROCEDURES TO ADDRESS RENEWABLE ENERGY DEVELOPMENT

Ref: (a) OPNAVINST 11010.40  
(b) OPNAVINST 5090.1C CH-1

1. To ensure renewable energy development by Navy is compatible with readiness training and testing missions.
2. The Secretary of the Navy established ambitious renewable energy goals, which include the production of at least 50% of shore-based energy from alternative sources by 2020 and achieving net-zero at 50% of installations by 2020. Achieving these goals has led to instances where Navy sponsored renewable energy proposals have been substantially developed and announced without ensuring compatibility with Navy training, testing, or other mission areas. Internal development should share the same focus as reference (a) to prevent incompatible development from degrading operational and readiness capabilities.
3. Navy policy is to prevent incompatible development while striving to meet ambitious renewable energy goals. Compatible development can only be successful if information is coordinated by Navy commands proposing renewable energy projects with all other principal Navy users of any affected land, air, or water resources. The following measures are designed to ensure internal coordination and are necessary to protect Navy missions from self-imposed incompatible development:



# Goals for Clearinghouse

- A Single DoD Voice
  - Timely, repeatable, and predictable process that promotes compatibility between energy independence and military capabilities: two key facets of national security
  - Most projects will be reviewed and cleared by Services in 30 – 45 days
  - Only projects with significant impacts or that need multi-Service coordination will receive full Clearinghouse attention



# Steps for Working with DoD

- Step 1: Contact your DoD REC in your region
- Step 2: Send location information (lat/long) and maps to your DoD REC (share data)
- Step 3: DoD REC in SW Coordinates with DoD SW RE Work Group
- Step 4: Work locally to have a win-win solution
- Step 5: If local region has an impact and it is not mitigable, they will send to the Clearinghouse at OSD for review
- Step 6: Final decision will come from the Clearinghouse



# Importance of Good Coordination

*To Effectively Meet Renewable Energy Goals for All Stakeholders While Protecting Our National Security Mission for Military Testing, Training, and Readiness*



# Solutions and Looking Forward

- DoD and REC Program Supports Renewable Energy Goals
- Follow Steps to Work Effectively with DoD
- Energy Issues are Manageable with Proactive Engagement and Available Tools
- If Project Impact Cannot Be Mitigated, Final Decision Will Come From Clearinghouse



# Questions?

