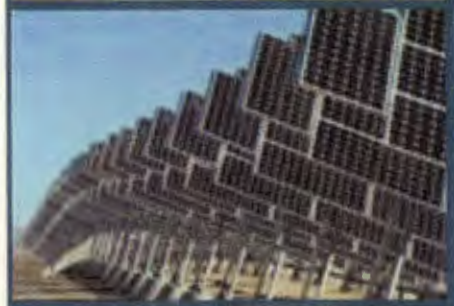


Interagency Land Use Coordinating Committee

Department of Defense Facilities Energy Program

Office of the Deputy Under Secretary of Defense Installations & Environment

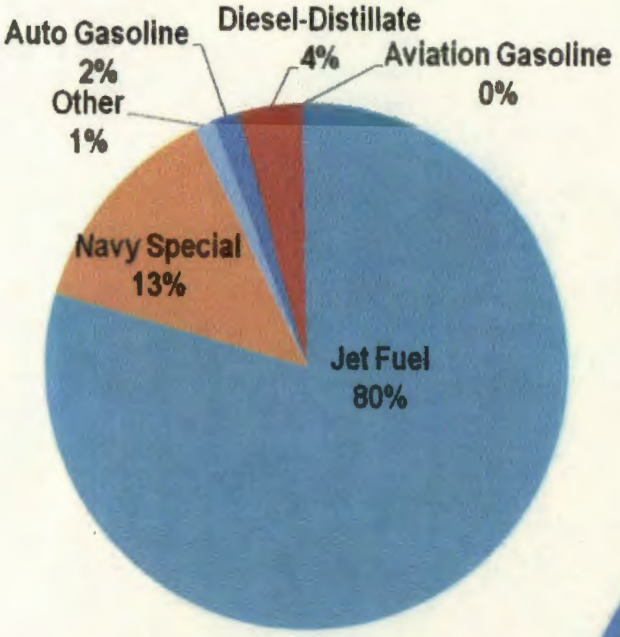
June 1, 2011

Key Points

- DoD has made energy a priority; we are doing this not just to be "green" but to improve our effectiveness as warfighters.
- Renewable energy is a key element of our strategy in part because it contributes to the security of the energy supply on our installations.

DoD Energy Use, FY2010

Acquisition, Technology and Logistics

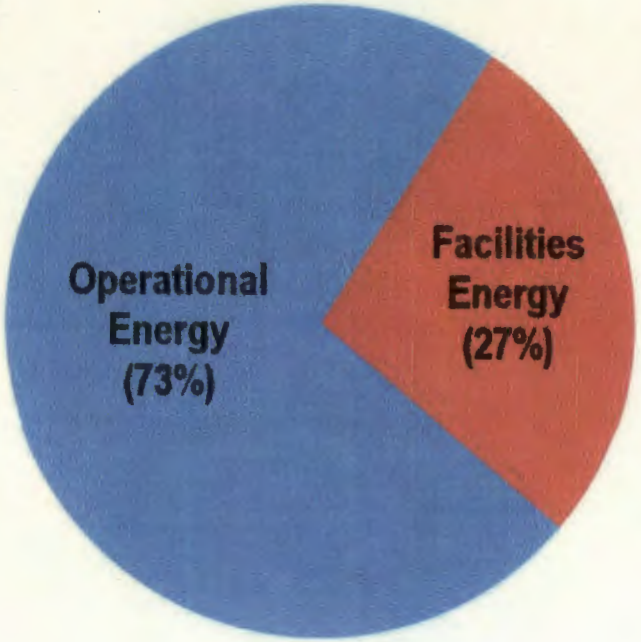


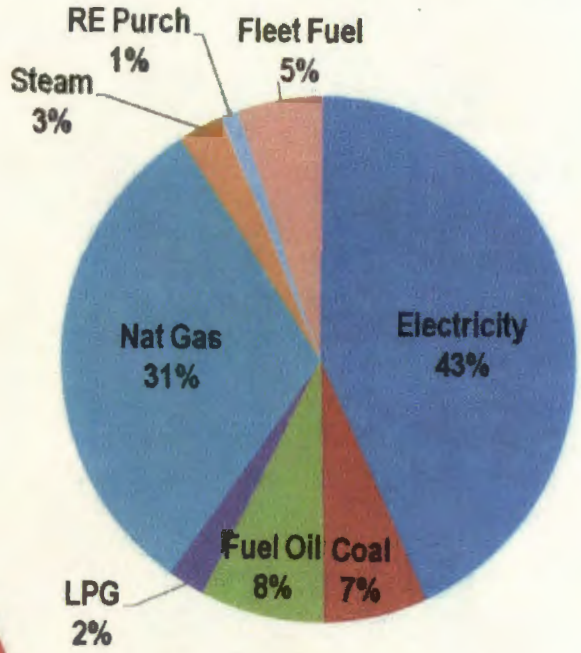
Operational

DoD Energy Consumption

FY10: 875,244 BBTU

FY09: 931,557 BBTU





Installations

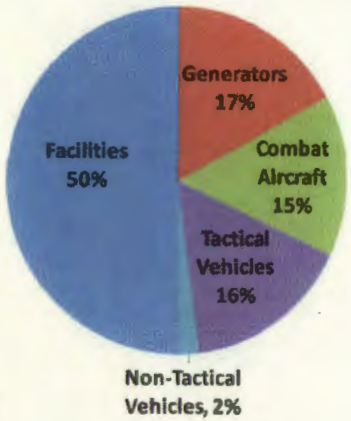
Why Facilities Energy Matters

Acquisition, Technology and Logistics

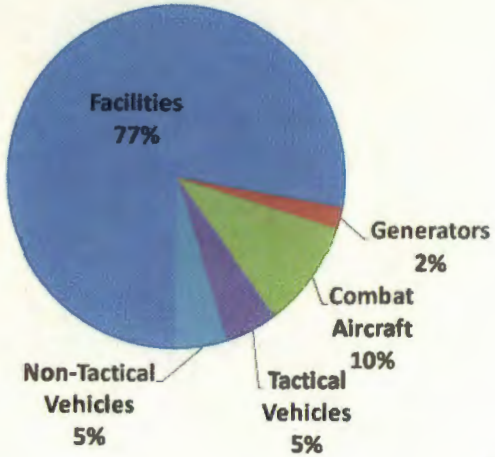
- **Significant Cost**
  - FY09: $4.0 billion (26% of total DoD energy costs)
  - Cost likely to increase (reduced presence in Iraq and Afghanistan, improved QoL)
- **Environmental Impact**
  - Contributes a disproportion share (~ 40%) of GHGs
- **Mission Assurance/Energy Security**
  - DoD's reliance on a fragile commercial electricity grid places continuity of critical missions at serious and growing risk [1]

[1] Defense Science Board, "More Fight – Less Fuel," February 2008

Army CO_2 Emissions Today



Army CO_2 Emissions Future?

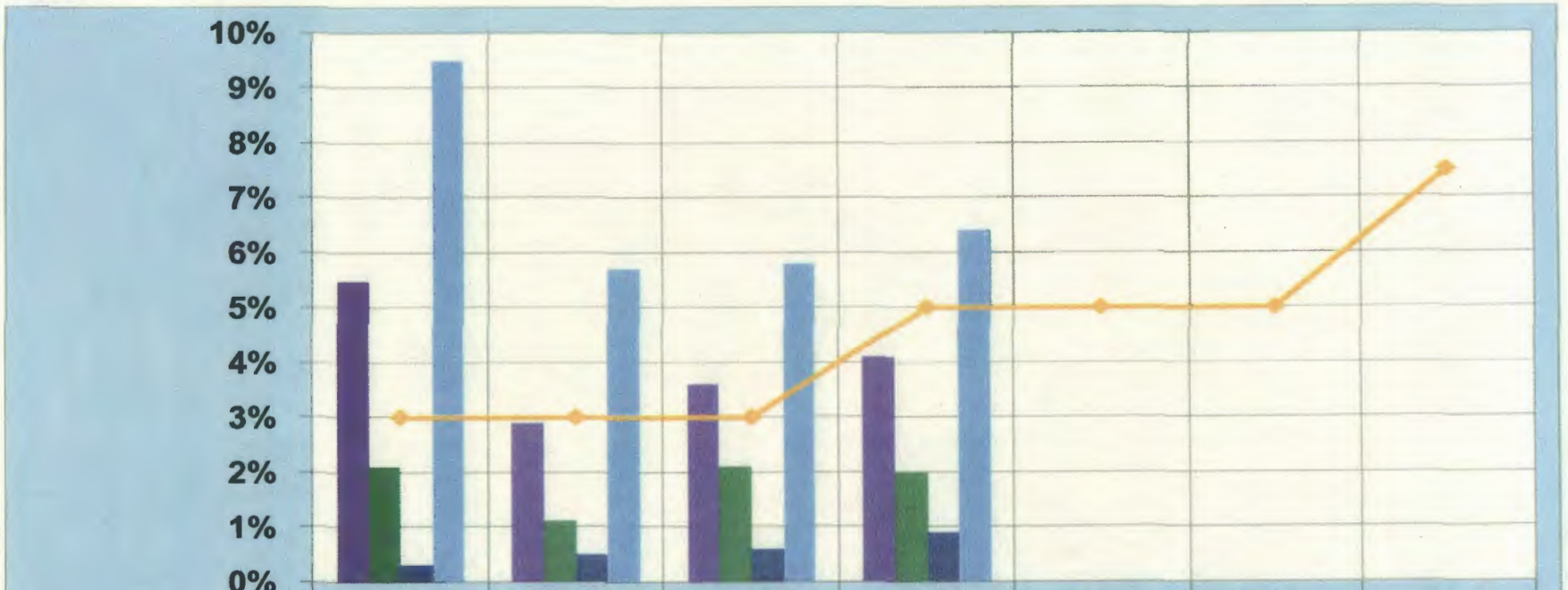


Facilities Energy Core Strategy

- ***Reduce Demand*** -- energy efficiency/conservation
  - Leveraging SRM (repair & maintenance) - $8.8 B - for energy efficiency retrofits
    - High efficiency HVAC, energy mgt control systems, improved lighting, water-reducing devices
  - Leveraging MilCon budget - $14.8B ($12.5B w/o BRAC)
    - LEED Silver (40% of points from energy and water)
    - 30% above ASHRAE standards
  - Transform MilCon/SRM process to emphasize energy efficiency
- ***Increase Supply*** of renewable/alternative energy
  - Large military installations well suited to support solar, wind and geothermal, but T&E species a challenge
  - Potential for rooftop renewable on large scale
  - Private financing essential
  - Contributes to energy security

DoD Progress Towards EPAct 2005 Sec 203 Renewable Energy Goal

Acquisition, Technology and Logistics

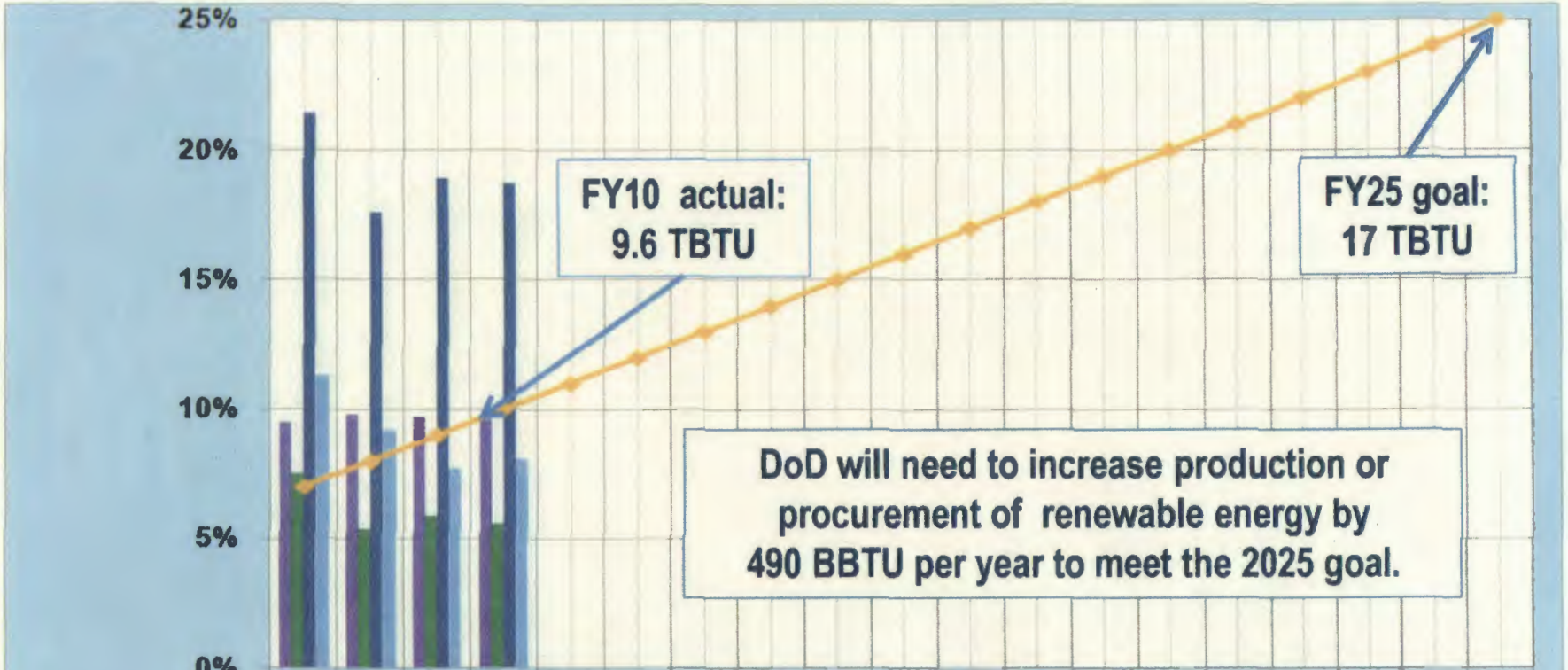


	FY07	FY08	FY09	FY10	FY11	FY12	FY13
DoD	5.5%	2.9%	3.6%	4.1%			
Army	2.1%	1.1%	2.1%	2.0%			
Dept of Navy	0.3%	0.5%	0.6%	0.9%			
Air Force	9.5%	5.7%	5.8%	6.4%			
EPAct 2005	3.0%	3.0%	3.0%	5.0%	5.0%	5.0%	7.5%

Current accounting rules will make it difficult to achieve EPAct goal. Energy from third party funded projects like China Lake don't count toward goal.

DoD Progress Towards 10 USC 2911(e) Renewable Energy Goal

Acquisition, Technology and Logistics



	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
DoD	9.5%	9.8%	9.7%	9.6%															
Army	7.5%	5.4%	5.9%	5.6%															
Dept of Navy	21.4%	17.6%	18.9%	18.7%															
Air Force	11.3%	9.2%	7.7%	8.1%															
10 USC 2911(e)	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%	24%	25%

DoD produced or procured 9.6 TBTU of renewable energy in 2010. DoD needs to increase this amount to 17 TBTU to meet the 2025 goal.

DoD Renewable Energy Activities

Nellis AFB
Solar Array (14 MW)

Fort Huachuca
Photovoltaic Roof

Marine Corps Base Hawaii
Solar Hot Water Heating
Family Housing

China Lake
Geothermal Power Plant
(270 MW)

DoD Renewable Energy Projects

Electricity Generation - 287
- Solar - 279
- Wind - 25
- Hydro/Ocean - 1

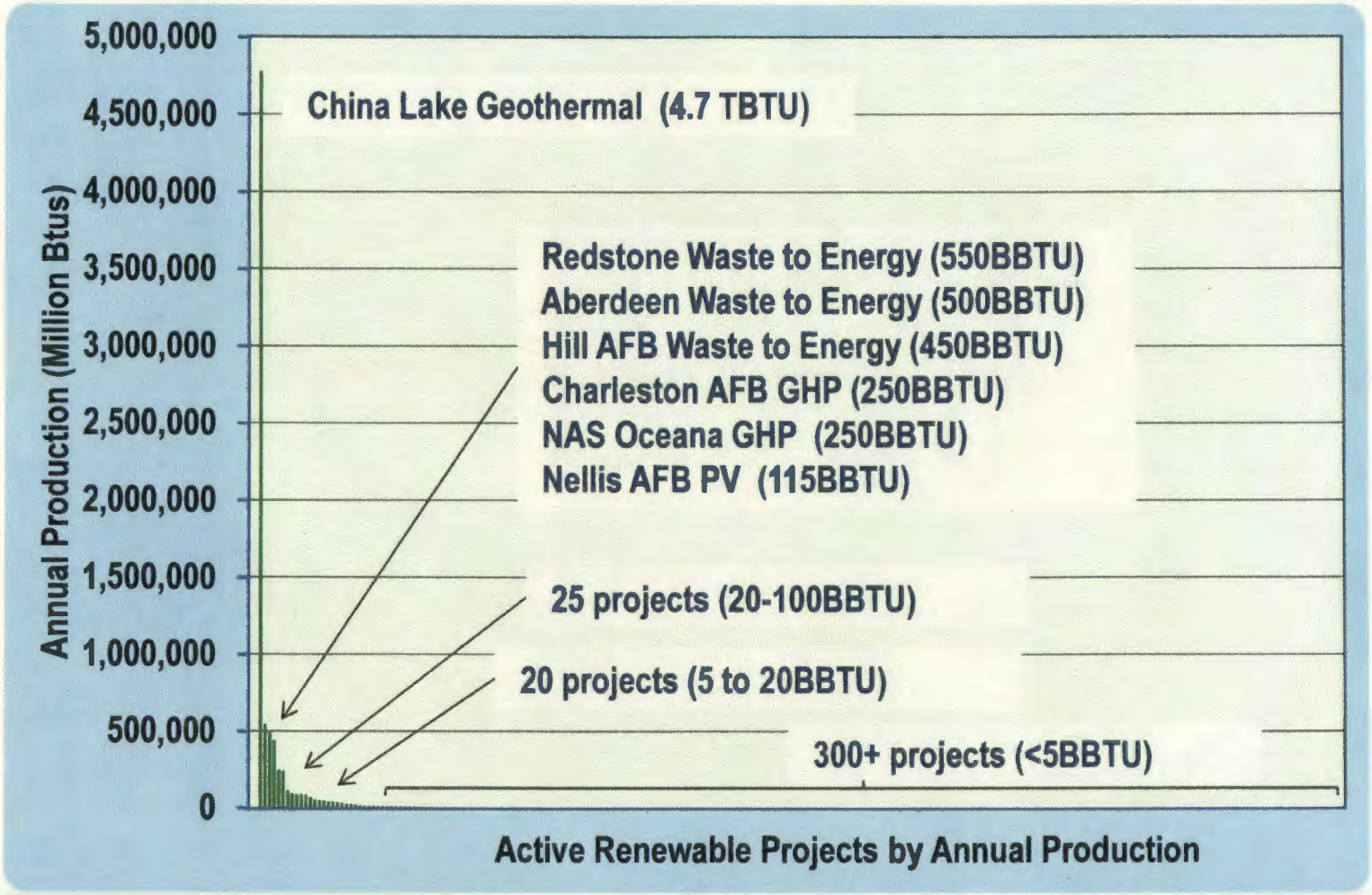
Natural Gas - 6
- Landfill / Biomass/MSW

Thermal Energy - 261

TOTAL PROJECTS – 443

Renewable Energy Generation:
5,806 BBTU
Renewable Electricity:
1,530 GWh

Large DoD Renewable Energy Projects Are Few



To meet the 2025 renewable energy goal DoD will need 2 China Lake geothermal projects or 63 Nellis solar PV projects.

Potential for Large DoD Renewable Energy

Project Location	Technologies
Fort Irwin, California	Solar, Geothermal, Wind
Hawthorne Army Depot, Nevada	Geothermal
Nellis AFB Phase II, Nevada	Solar
Marine Corps Air Station Miramar, California	Landfill gas
Yuma Proving Ground, Arizona	Solar
Multiple Sites, Hawaii	Solar
Chocolate Mountain, California	Geothermal
El Centro NAF, California	Geothermal
Fallon NAS, Nevada	Geothermal
Eglin AFB, Florida	Biomass
Vandenberg AFB, California	Wind

Summary

- Renewable Energy on Federal property, what are the next steps
  - What are the withdrawn lands at each installation?
  - How do we work together to ensure that Renewable Energy projects are implemented to meet the DoD energy goals, while considering withdrawn lands?
  - Is overarching policy needed to address Renewable Energy projects on withdrawn lands?

Siting and Military Capabilities: DoD's Energy Siting Clearinghouse

Bill Van Houten
Energy Siting Clearinghouse
Office of the Secretary of Defense

America's Military Missions

We train...

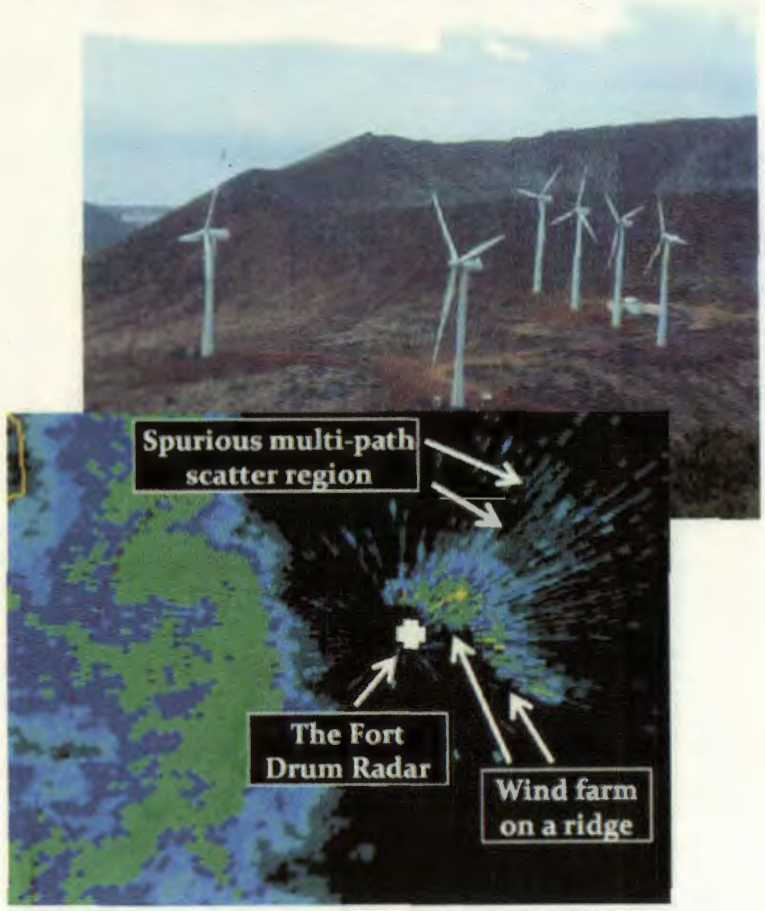
test...

operate...

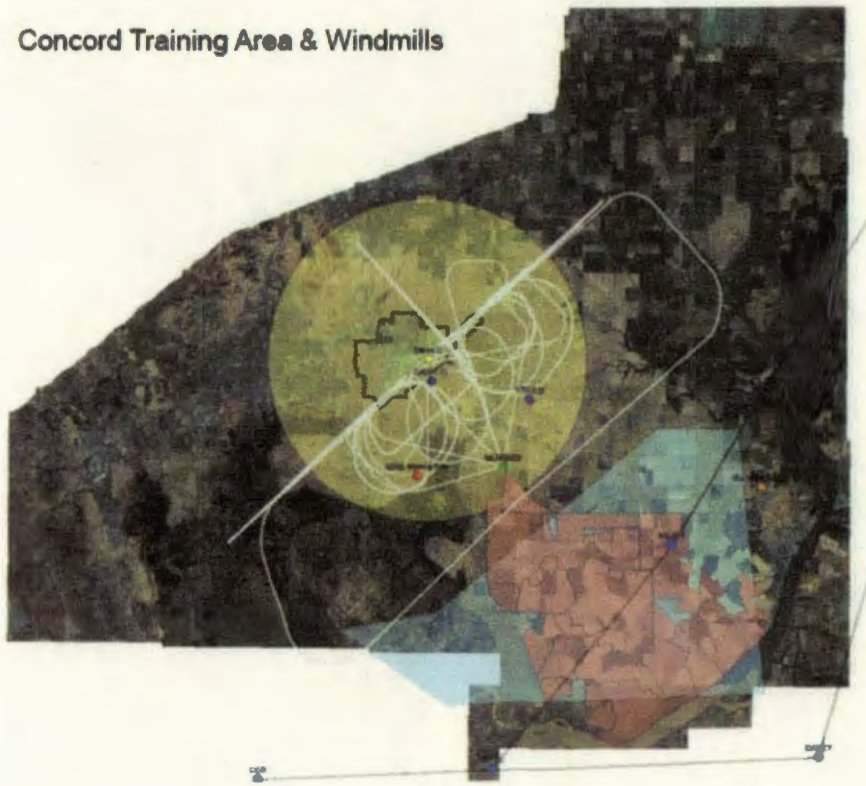
And defend.

The Renewable Conundrum

- Colliding National Priorities
  - Rapid development of renewable technologies
  - Rapidly changing military technology research & development
- Inadequate Policy and Processes
  - FAA Obstruction Evaluation Processes not designed to protect military missions
  - Land use decision-making authorities fragmented across all levels of government

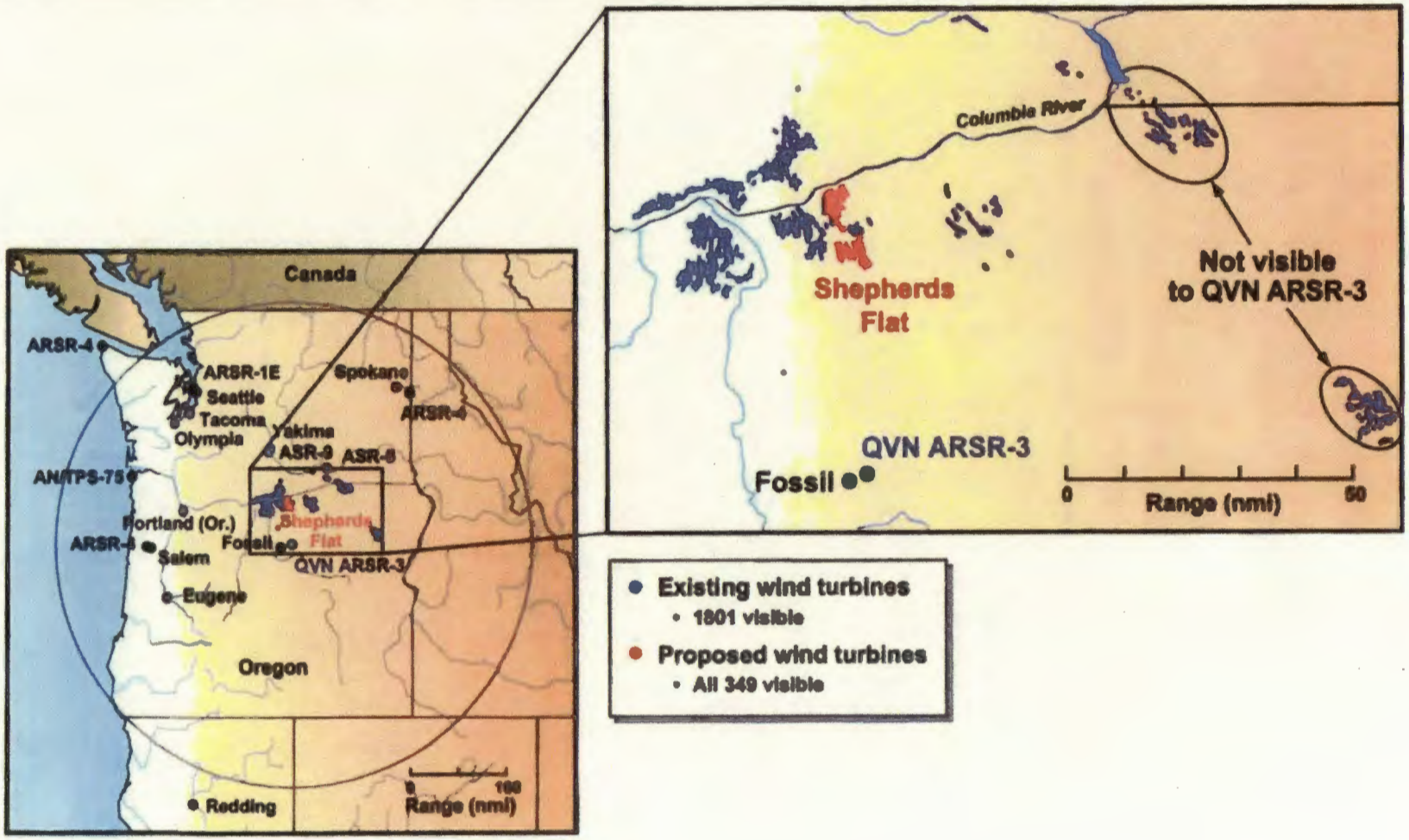


There Are Successes



- BLM/DoD Wind Energy Protocol
- Travis AFB CRADA
  - Cooperative Research and Development Agreement (CRADA)
  - Multiple Partners
  - Jointly funded studies of impacts and explored mitigations
  - Resulted in "re-tuning" of radar and interlinking with other radars to mitigate coverage impacts

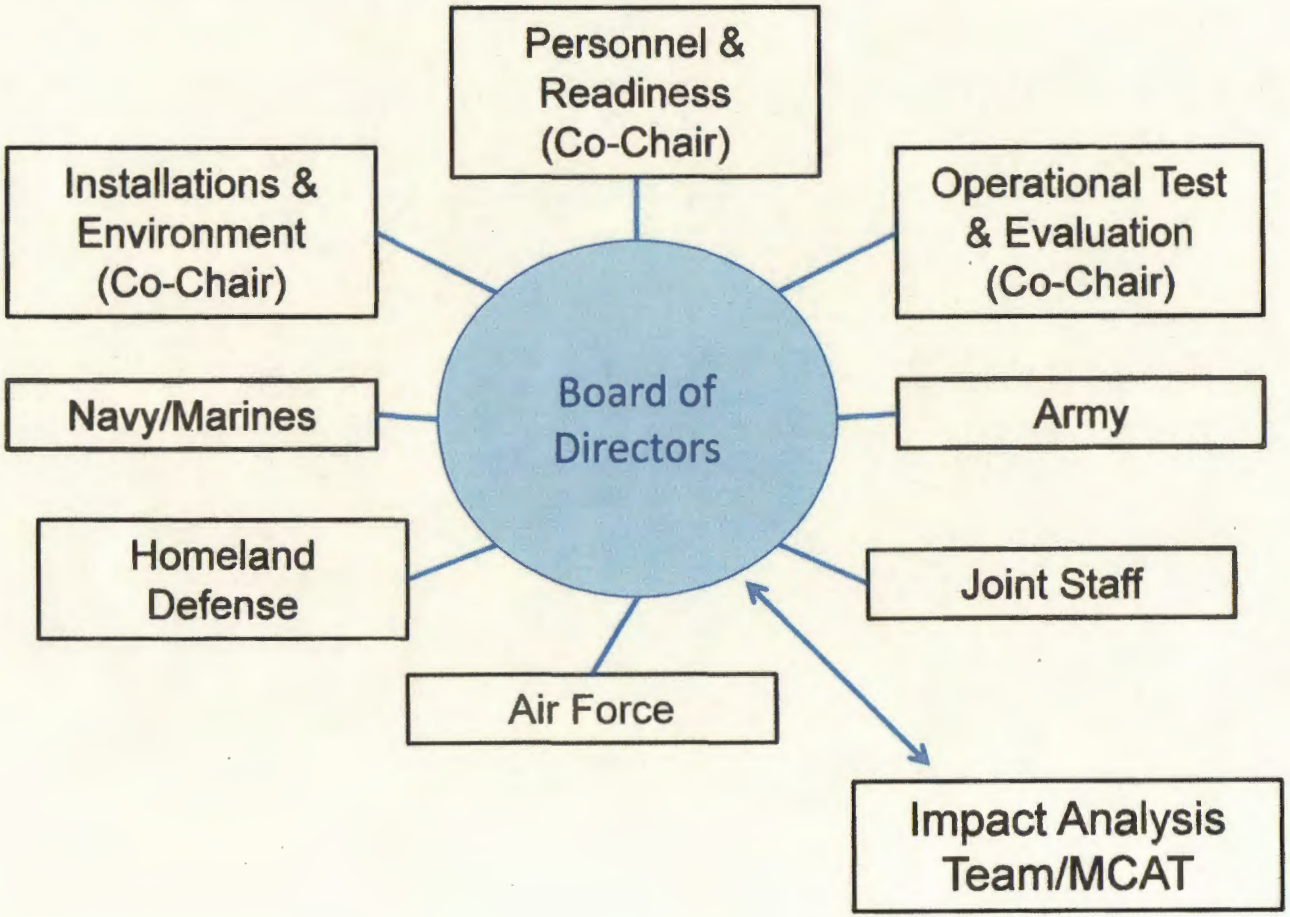
Shepherd's Flat – We Were Unprepared



DoD Energy Siting 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

DoD Energy Siting Clearinghouse



The 2011 NDAA

- National Defense Authorization Act (NDAA)
- Section 358 "Study Of Effects Of New Construction Of Obstructions On Military Installations And Operations"
- Designation Of Senior Official And Lead Organization
- Unacceptable Risk Standard
- **Focuses on Obstructions per the OE/AAA Process**

Key Elements of Section 358

- Authority to Accept Contributions of Funds
  - voluntary contribution of funds from an applicant for a project
  - for the purpose of offsetting the cost to mitigate adverse impacts on military operations and readiness

DoD Energy Siting Clearinghouse

- External Communications
  - Outreach and **Early Consultation**
  - What the Clearinghouse Needs to Know
  - Need to work interagency
- Processes
  - Matrix of Data and Communications
  - Parallel Multi-Service Review
  - **NOT a replacement for OE/AAA , NTIA, or NEPA**
  - **Applies to ALL renewables, not just wind**
  - **Applies on AND off our bases**

DoD Energy Siting Clearinghouse

- Organization and Tools
  - Mission Compatibility Awareness Tool (MCAT)
  - Operational Impact Assessment Tools