Department of Defense
Sustainability Planning:
THE VIEW FROM THE SECOND YEAR

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OUTLINE

- Overview of DoD and its Sustainability Plan
- Some Progress So Far
- Challenges
- Moving From Policy to Action

Refurbishing fire extinguishers reduces chemical waste and saves money (Photo: USMC)

Reflective roof with solar panels, Tyndall AFB, FL

Rooftop solar at Naval Weapons Station Seal Beach
DoD SSPP Objectives

The DoD sustainability plan is built around the MISSION:

- Continued Availability of Resources
- Performance Ensured by Minimizing Waste & Pollution
- DoD Readiness Maintained in the Face of Climate Change
- Management & Practices Built on Sustainability and Community
DoD SSPP Goals & Sub-Goals

GOAL #1: Use of Fossil Fuels Reduced
- Facility Energy Use
- Renewable Energy
- Vehicle Petroleum Use

GOAL #2: Water Resources Management Improved
- Facility Potable Water Use
- Irrigation & Industrial Water Use
- Storm Water Mngt

GOAL #3: Scope 1 and Scope 2 Greenhouse Gas (GHG) Emissions Reduced 34% by 2020, Relative to FY08

GOAL #4: Scope 3 GHGs Reduced 13.5% by 2020, Relative to FY08
- Employee Air Travel
- Employee Teleworking

GOAL #5: Solid Waste Minimized and Optimally Managed
- Use of Printing Paper
- Solid Waste Diverted from Waste Stream
- Use of Biogas

GOAL #6: Chemicals of Environmental Concern Minimized
- Release and Transfer of Toxic Chemicals
- Proper Electronics Disposal
- Certified Pesticide Application

GOAL #7: Sustainability Practices Become the Norm
- Procurement Conducted Sustainably
- High Performance, Sustainable Buildings

GOAL #8: Sustainability Built into DoD Mngt Systems
- Effective EMSs
- Coordination with Local and Regional Planning
- Integrated Pest Mngt
SIZE and SCOPE of DoD

31 DoD Components: Army, Navy, USMC, USAF + 28 others

- # Buildings (owned+ leased): 300,658
- # Vehicles (non-tactical): >197,000
- # Locations (global): 5,000
- Fossil-Fuel Use (facilities): >200 Billion Btu

Energy use by Federal Gov’t

Covered by DoD SSPP

DoD Facilities 18%

Other USG 35%

DoD Ops 47%

FY10 Energy use by the Military Services and 10 other Components that pay utilities
PROGRESS SO FAR

Progress on Two Levels

1. Implementation
2. Laying the Foundation for Implementation

#2 is critical for an organization as complex as DoD!

A Flavor for Implementation...

- War commitments driving up energy use, yet INTENSITY steadily dropping
- Navy advanced metering 95% of its use of electricity, water, steam, gas (17,000 meters by end of FY11)
- Paper Use Reduction: Policies issued by Navy, DLA, MDA
- Reduced Cr$_6^+$ — Amending Defense Federal Acquisition Reg (*due out soon*) to back up the Apr 2009 policy

But...

Total Energy Consumption

Energy Intensity (per ft$^2$)
PROGRESS SO FAR: Laying the Policy Foundation

1. Laying the Needed POLICY Foundation
2. Institutional: Getting LOGISTICAL Systems in Place

1. MAJOR 2010 – 2011 POLICY and GUIDANCE on Sustainability

- DoD-Level
  - Stormwater Runoff policy – Jan 2010 (DoD Unified Facilities Criteria updated Nov 2010)
  - Sustainable Buildings policy – Oct 2010
  - Telework DoD Instruction (DoDI) – Oct 2010
  - Sulfur Hexafluoride (SF₆) Risk Management – Oct 2010
  - Integrated Solid Waste Management DoDI – in progress
  - Sustainability DoDI – in progress ➔ major policy; will give rise to many specific Instructions

- Major Military Service Policies
  - Dept of NAVY: “Energy Program for Security & Independence” (energy strategy)
  - USMC: “Expeditionary Energy Strategy & Implementation Plan” (includes water)
  - ARMY: 3 policies since July 2010 on...
    - ✓ Lighting ✓ Stormwater ✓ Sustainable Design & Development
  - AIR FORCE: substantial revision of AF Instruction “Planning & Programming Military Construction Projects”
PROGRESS SO FAR: Laying the Logistical Foundation

2. Getting the Systems in Place to Track & Evaluate Progress

DONE

- New Navy capability to electronically track compliance on stormwater runoff & low-impact development
- New Air Force stormwater hydrology analysis tool to estimate pre- and post-hydrology of AF sites

IN PROGRESS – efforts underway but takes time to lay the groundwork

- Sustainability Evaluation & Tracking System (SETS) – automated, web-based data collection to report & track SSPP progress by Component
- Solid Waste – incorporating recycling requirements into contracts. But more needed. New DoDI on Integrated Solid Waste Mngt will help (expected by EOCY11).
Getting Systems in Place to Track Progress

IN PROGRESS, continued...

Teleworking

1. **Improved Tracking** – OSD working to get data via Defense Finance & Accounting Services

2. **Need Better Count of Eligible Workers**
   Developing DoD-wide application to track eligibility. Supervisors decide on eligibility for each employee; employees notified by e-mail.

3. **Need More Laptops**
   End of life desktops replaced with LAPTOPS & docking stations *(takes time)*

Employee Air Travel

Working with GSA & EPA; on Interagency Green Travel WG. *Under consideration*...

- Update DoD travel regulations per Sept 2010 GSA Sustainable Travel Guidelines
- Sustainable evaluation criteria for GSA City Pair Program
- Analysis of replacing non-essential travel with virtual meetings

ACTION REQUIRED BY OTHERS

Sustainable Procurement – Federal Procurement Data System needs updating
CHALLENGES

Institutionalizing Sustainability Into the Choices DoD Makes

Work Has Begun On...

- **ACQUISITION**: incorporating sustainability into weapon system design
- **INVESTMENTS**: System for budget exhibits to capture & track DoD sustainability investments and resources to better align resources & objectives

Still Needed: Basis for **objective decision-making** to promote DoD sustainability

- Different perspectives: DoD-wide vs facility level
- Address Disincentives – e.g., **split incentives** interfere w/lifecycle cost analysis
- Sustainability considerations can be difficult to **QUANTIFY**, e.g.,
  - ✔ impacts of climate change
  - ✔ benefits of less traffic congestion
  - ✔ costs of water shortages
Sustainable Buildings

- Fed’l Mandate & SSPP goal: 15% of EXISTING bldgs to meet sust’y criteria by FY15
- **Challenge:** sheer size of DoD’s existing inventory – 72,700 buildings >5,000 ft²
- 15% = ~11,000 buildings to be evaluated and upgraded – a lot of time and $
- NEW buildings not an issue: all already built to at least Silver LEED

Metering

- DoD well on track to achieve EPAct §103:
  - electricity - 95%
  - natural gas - 88%
  - steam – 69% ...as of the end of FY10

BUT...

- So far <10% of buildings deemed “appropriate” for electricity metering

**WATER:**

- often not metered, or inadequately
- Large losses through leaks in aging infrastructure
- Water is cheap → difficult to justify based on ROI

Opportunity: DoD OWNS most of its buildings
Conclusion: Moving From Policy to Action

The SSPP charts the course but action happens on the ground* (*installations, hospital facilities, administrative offices, ...)

Q: How to implement a plan spanning an entity the size & complexity of DoD?
A: No silver bullet – leadership, innovation and action needed at ALL LEVELS:

TILLER

T TIMEFRAMES: *work at all timeframes* – short-, intermediate-, long-term (R&D)
I IMPROVE Continuously – track, evaluate, adjust on an ongoing basis
L LEADERSHIP *at all levels* – DoD, Services, Commands, ... , Installations
L LIFECYCLE: *consider all components* – technologies, infrastructure, products,...
E ENABLERS: *tap the entire range* – policy, guidance, logistics, tools
R RECRUIT – engage and tap into the energy and talent of personnel
Questions?

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