DoD Sustainability Strategy

The Latest…

Mr. Dave Asiello
DUSD(I&E)/CMRM

Report Documentation Page

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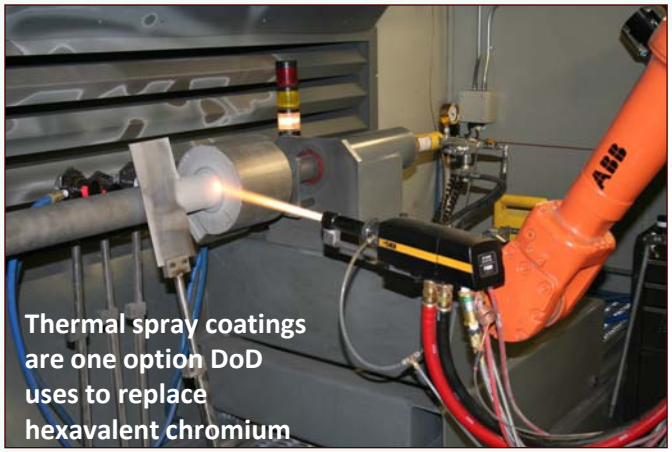
Overview

- DoD Sustainability and Mission
- DoD Strategic Sustainability Performance Plan
- Progress
- Challenges
- Path Forward

Rooftop solar at Naval Weapons Station Seal Beach

Sustainability Overview

Our vision: Adopt sustainable practices and incorporate sustainability into decision-making to better ensure our ability to operate into the future without decline – either in the *mission* or in the natural and manufactured systems that support it.



Thermal spray coatings are one option DoD uses to replace hexavalent chromium plating

Photo: SprayTec Coating Solutions, LLC

Relation of Sustainability to DoD Mission

Energy and Reliance on Fossil Fuels

- Risk to forces delivering fuel
- Insecurity & volatility in supply & price
- Vulnerability of electrical grid

Potable Water Resources

- Risk to forces delivering water
- Essential ingredient for military operations, human health
- Scarcity exacerbates tensions in regions prone to conflict
- Reliability can effect base operations and fielding choices

Relation of Sustainability to DoD Mission

Toxic and Hazardous Materials

- Harms the health of humans & ecosystems
- Impairs readiness
- Increases cleanup & handling costs
- Additional operational restrictions
- Hampers the continued availability of mission critical chemicals

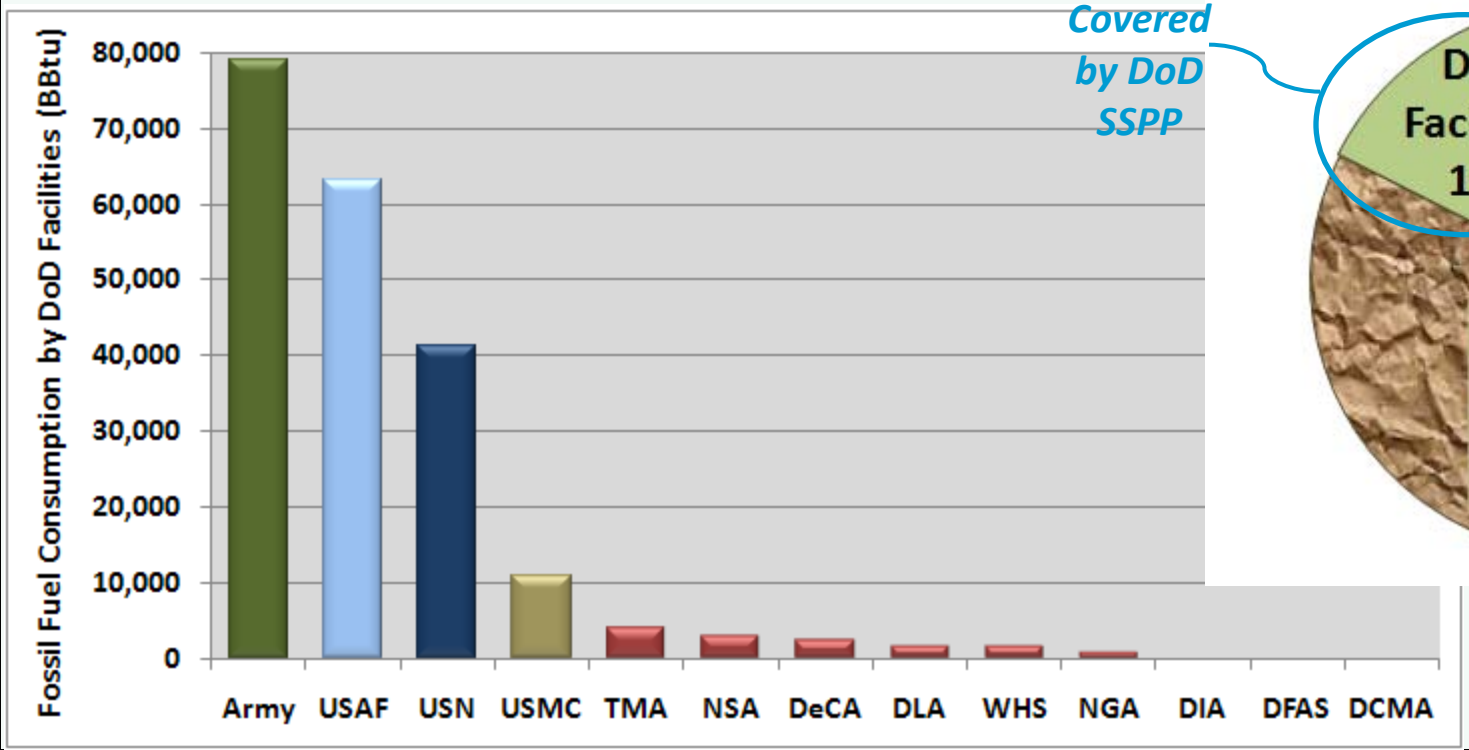
Vulnerability to Climate Change

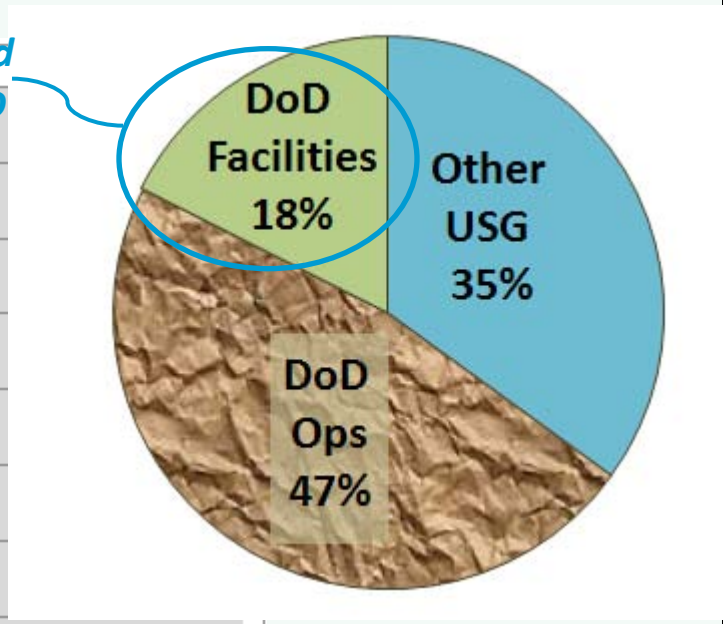
- Can limit outdoor training
- Reduces fresh water supply
- Sea level rise affects infrastructure and diversity of training habitats
- Damages ecosystems
- Increases smog (ozone)
- Strains electricity supply
- Causes vector borne diseases
- Increases frequency & intensity of wildfires

Size and Scope of DoD

31 DoD Components: Military Departments + 28 others

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





Sustainability Executive Orders

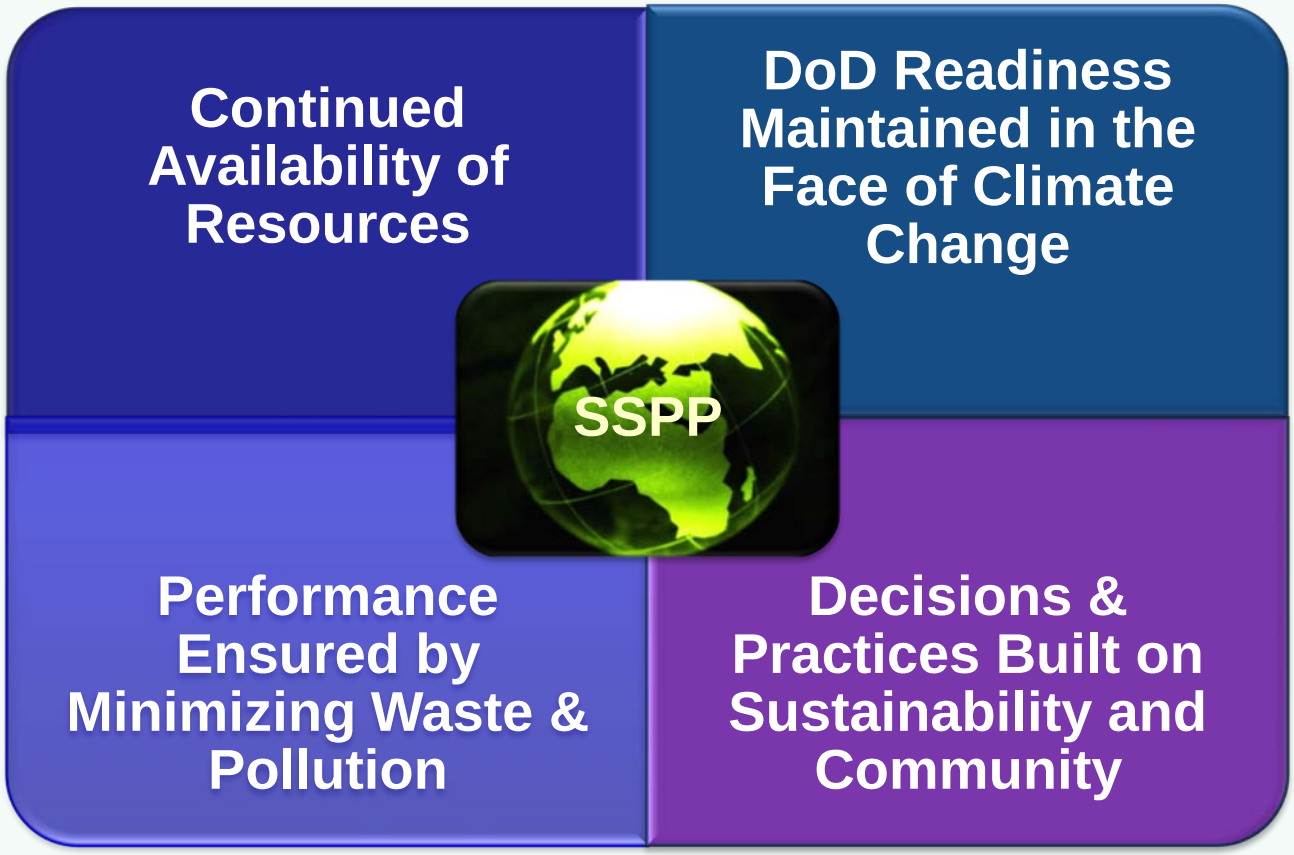
- **Executive Order 13514 represents a decisive move by the Obama Administration to instill sustainability into government operations**

"As the largest consumer of energy in the U.S. economy, the Federal government can and should lead by example when it comes to creating innovative ways to reduce greenhouse gas emissions, increase energy efficiency, conserve water, reduce waste, and use environmentally - responsible products and technologies"

Pres. Obama's Remarks on EO 13514, 5 October 2009

DoD's Strategic Sustainability Performance Plan (SSPP)

Built on 4 Key Mission-Oriented Themes



OBJECTIVE 1: Continued Availability of Critical Resources

- *Energy Intensity by DoD Facilities Reduced by 30% of FY 2003 Levels by FY 2015 and 37.5% by FY 2020*
- *18.3% of Energy Consumed by DoD Facilities is Produced or Procured from Renewable Sources by 2020*
- *Use of Petroleum Products by Vehicle Fleets Reduced 30% by 2020 Relative to 2005*

Goal 1 - Use of Fossil Fuels Reduced

- *Potable Water Consumption Intensity by Facilities Reduced by 26% of FY 2007 Levels by FY 2020*
- *DoD Industrial and Irrigation Water Consumption Reduced by 20% of FY 2010 Levels by FY 2020*
- *All DoD Development and Redevelopment Projects of 5,000 Square Feet or Greater Maintain Pre-Development Hydrology to the Maximum Extent Technically Feasible*

Goal 2 - Water Resources Management Improved

OBJECTIVE 2: DoD Readiness Maintained in the Face of Climate Change

Goal 3 - Scope 1 & Scope 2 Greenhouse Gas (GHG) Emissions Reduced 34% by 2020, Relative to FY08

- ***Greenhouse Gas Emissions from Employee Air Travel Reduced 15% by FY 2020 Relative to FY 2011***
- ***30% of Eligible Employees Teleworking at Least Once a Week, on a Regular, Recurring Basis, by 2020***
- ***50% of Non-Hazardous Solid Waste Diverted from Disposal in Landfills Not Owned by DoD by 2015 and Thereafter Through 2020***

Goal 4 - Scope 3 GHGs Reduced 13.5% by 2020, Relative to FY08

OBJECTIVE 3: Minimize Waste and Pollution

- *All DoD Organizations Implementing Policies by FY 2014 to Reduce the Use of Printing Paper*
- *50% of Non-Hazardous Solid Waste Diverted from the Waste Stream by 2015 and Thereafter Through 2020*
- *60% of Construction and Demolition Debris Diverted from the Waste Stream by 2015, and Thereafter Through 2020*
- *Landfills Recovering Landfill Gas for Use by DoD: Two by FY 2012 and Ten by 2020*

Goal 5 – Solid Waste Minimized and Optimally Managed

- *15% Reduction of On-Site Releases and Off-Site Transfers of Toxic Chemicals by 2020, Relative to 2007*
- *100% of DoD Excess or Surplus Electronic Products Disposed of in Environmentally Sound Manner*
- *100% of DoD Personnel and Contractors that Apply Pesticides Properly Certified Through 2020*

Goal 6 – Chemicals of Environmental Concern Minimized

OBJECTIVE 4: Decisions and Practices Built on Sustainability & Community

- *95% of Procurement Conducted Sustainably*
- *15% of Existing DoD Buildings Conform to the Guiding Principles on High Performance and Sustainable Buildings By FY 2015, Holding Through 2020*

Goal 7 – Sustainability Practices Become the Norm

- *All Environmental Management Systems Effectively Implemented and Maintained*
- *The Sustainability of Transportation and Energy Choices in Surrounding Areas Optimized by Coordinating with Related Regional and Local Planning*
- *All DoD Installations Have Integrated Pest Management Plans Prepared, Reviewed, and Updated Annually by Pest Management Professionals*

Goal 8 – Sustainability Built into DoD Management Systems

Progress So Far

Progress on Two Levels

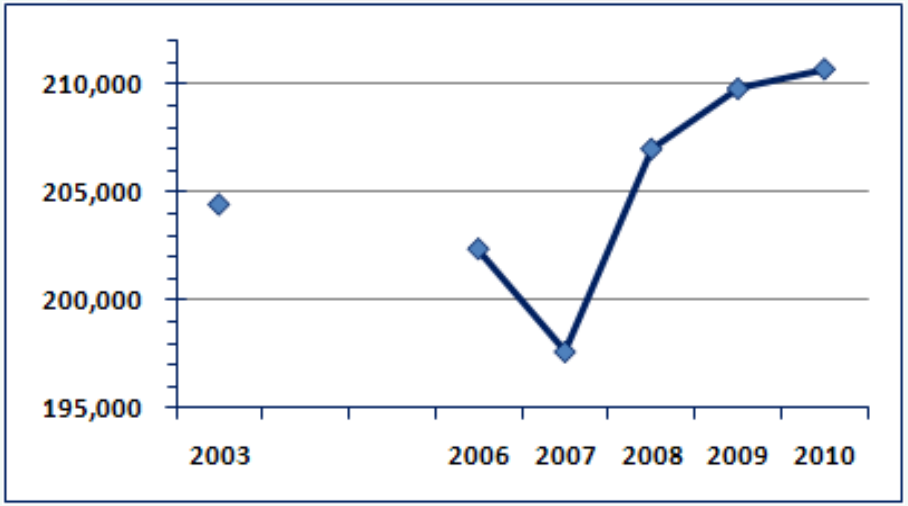
1. Implementation
2. Laying the Foundation for Implementation

Both are critical for an organization as complex as DoD!

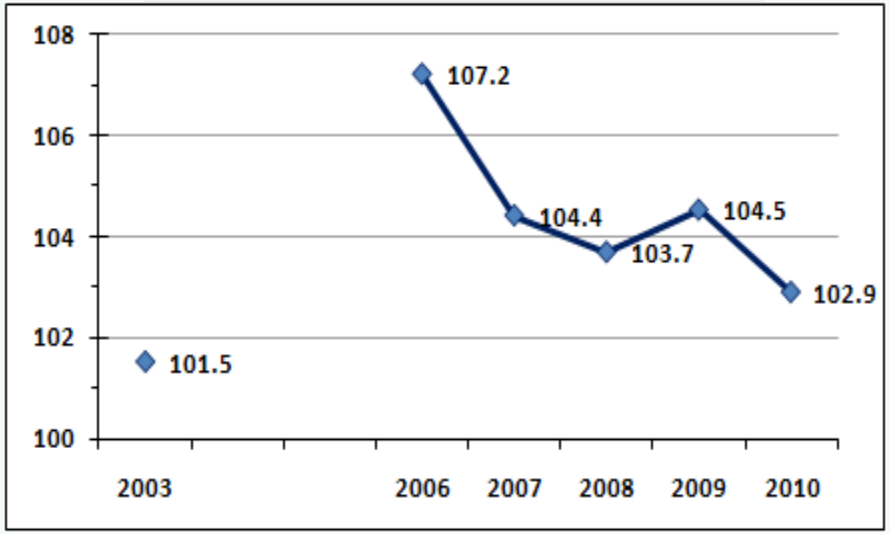
A Flavor for Implementation…

- War commitments driving up energy use, yet INTENSITY steadily dropping
- Navy advanced metering for 95% of 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+} — Apr 2009 policy backed by amended Defense Federal Acquisition Reg. *(due out soon)*

Total Energy Consumption



Energy Intensity (per SF)



Progress So Far cont.

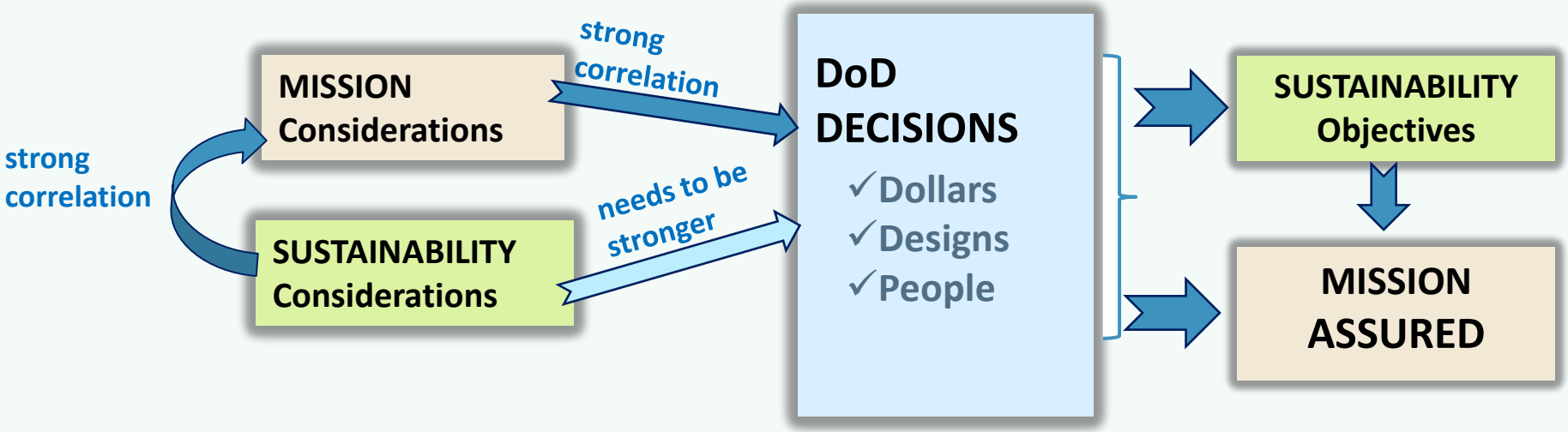
- **DoD-Level Policies**
  - ✓ Stormwater Runoff policy – Jan 2010 *(DoD Unified Facilities Criteria updated Nov 2010)*
  - ✓ Sustainable Buildings policy – Oct 2010
  - ✓ Telework DoD Instruction (DoDI) – Oct 2010
  - ✓ Sulfur Hexafluoride (SF_6) Risk Management – Oct 2010
  - ✓ Integrated Solid Waste 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, and Sustainable Design & Development; AIR FORCE: substantial revision of AF Instruction "*Planning & Programming Military Construction Projects*"
- **Software Tracking & Analysis Systems – new & modified**
  - ✓ Sustainability Evaluation & Tracking System (SETS) – automated, web-based tracking & reporting SSPP progress
  - ✓ Modifying BUDGET EXHIBITS to I.D. sustainability $s, and gaps between sustainability objectives and $s
- **Meter installation – *Especially needed for water***

DoD OMB Scorecard

Scope 1&2 GHG Emission Reduction Target Submitted comprehensive inventory as 2008 baseline for Scope 1&2 GHG Reduction Target of 34% by 2020 [1]	Score: **GREEN**
Scope 3 GHG Emission Reduction Target Submitted comprehensive inventory as 2008 baseline for Scope 3 GHG Reduction Target of 13.5% by 2020 [1]	Score: **GREEN**
Reduction in Energy Intensity Reduction in energy intensity in goal-subject facilities compared with 2003: 11.2% and not on track	Score: **RED**
Use of Renewable Energy Use of renewable energy as a percent of facility electricity use: 11.3% from any renewable source (including thermal)	Score: **YELLOW**
Reduction in Potable Water Intensity Reduction in potable water intensity compared with 2007: 12.9% and on track for 26% in 2020	Score: **GREEN**
Reduction in Fleet Petroleum Use Reduction in fleet petroleum use compared to 2005: 6.6% and not on track	Score: **RED**
Green Buildings Sustainable green buildings: 0.06% of buildings sustainable 0.46% GSF of inventory sustainable	Score: **RED**

Process Challenges

Institutionalizing Sustainability Into the Choices DoD Makes



Need

- Improved investment decision-making to promote DoD sustainability objectives:
  - Multiple perspectives: DoD-wide vs. Facility vs. Building or Activity
  - Find Incentives and Address Disincentives
  - Life Cycle Analysis

Path Forward

The SSPP charts the course for action…

but we need more

No silver bullet – we need a culture shift across the *entire* Department

- **TIME** – short-, intermediate-, long-term
- **INNOVATION**– track, evaluate, adjust on an ongoing basis
- **LEADERSHIP** – DoD, Services, Commands, … , Installations
- **LIFECYCLE** – technologies, infrastructure, products,…
- **INCENTIVES** – policy, guidance, logistics, tools
- **PEOPLE** – engage and tap into the energy and talent of personnel

Dave Asiello, ODUSD(I&E)

Chair, DoD Sustainability Implementation Working Group

david.asiello@osd.mil

Consider this....

- **Sustainability efforts allow for the future availability of affordable, reliable resources (both natural and man-made), which are essential to enduring mission successes and future flexibility in choices.**
- **Sustainable acquisition helps to ensure future availability of resources and improves competitiveness of US manufacturing by reducing energy, water, and byproduct waste.**
- **Reductions in energy and water use not only result in savings that can be applied to other capabilities…It helps saves lives.**