



A new, 2-megawatt, ground mounted solar photovoltaic array occupies the site of a former landfill at Ft. Carson, Colo.

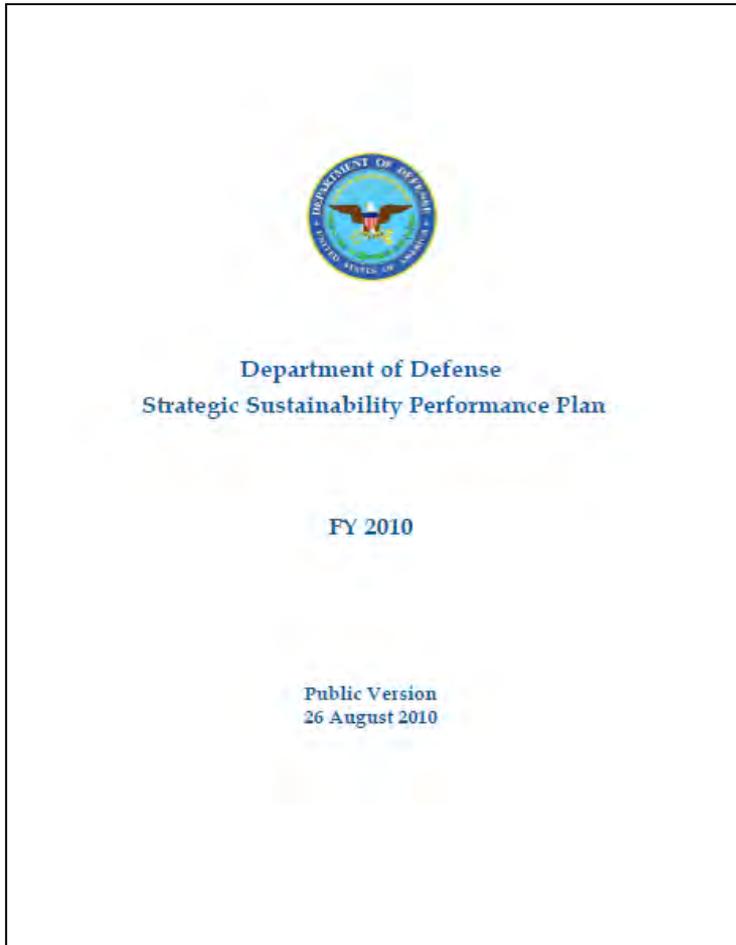
Federal Energy Legislation and How it Impacts Our MTFs

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AGENDA

- Background
- Energy Legislations:
 - EPAAct 2005
 - EISA 2007
 - EO 13514 & 13423
- Army Sustainability Plan
- Questions/Comments

Background



- The UFC identifies key sections of the Energy Policy Act of 2005 (EPAct) that affect DoD buildings, including Section 109 which requires that buildings be designed to attain 30 percent lower energy consumption than either standard 90.1 of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) or that of the International Energy Code, if lifecycle cost effective.

DoD Sustainable Building Policy

Oct 25, 2010

- It is DoD policy to build, operate, maintain, reuse, demolish or deconstruct DoD buildings in a sustainable manner, as outlined by DoDI 4170.11 and Unified Facilities Criteria 4-030-01. This memo establishes supplementary Department policy on sustainable buildings and specifies DoD Component actions necessary for compliance. Specifically:

DoD Sustainable Building Policy

Oct 25, 2010

- (2) All repair/renovation projects in existing buildings shall also conform to the guiding principles where they apply.
- The DoD Components will design, execute and certify major repair/renovation projects to be LEED Silver, at a minimum, where appropriate.

DoD Sustainable Building Policy

Oct 25, 2010

- (I) All new building design and construction shall conform to the **Guiding Principles in the High Performance and Sustainable Buildings MOU**.
- Also, DoD Components will design and build, and certify as appropriate, all new construction projects, at a minimum, to the **Silver level of the Leadership in Energy and Environmental Design (LEED)** green building rating system (or equal).
- Beginning in FY 12 for projects in the planning stage, the **sum of energy and water efficiency credits shall equal or exceed 40% of the points required for a LEED-Silver (or equal) rating**; this highlights the importance of pursuing additional energy- and water-related credits in areas such as cool roofs and day lighting.

DoD Sustainable Building Policy

Oct 25, 2010

- (3) Reduced total cost of ownership is intrinsic to sustainable buildings.
- The DoD Components shall incorporate life cycle and cost/benefit analysis into design decisions for new construction and renovation/repair projects.

EPAAct 2005

- The Energy Policy Act of 2005 (EPAAct 2005) established a number of energy management goals for Federal facilities and fleets. It also amended portions of the National Energy Conservation Policy Act (NECPA).
- EPAAct 2005 sets Federal energy management requirements in several areas, including:
 - Metering and Reporting
 - Energy-Efficient Product Procurement
 - Energy Savings Performance Contracts
 - Building Performance Standards
 - Renewables Energy Requirement
 - Alternative Fuel Use

EPAAct 2005

- **Metering and Reporting**
- Section 103 of EPAAct 2005 includes the following requirements surrounding energy use measurement and accounting:
 - Directs that all Federal buildings be metered "...for the purposes of efficient energy use and reduction in the cost of electricity used in such buildings..." by October 1, 2012. Advanced meters or metering devices must provide data at least daily and measure the consumption of electricity at least hourly. These devices must be used to the maximum extent practicable.
 - Directs the Secretary of Energy to develop guidelines for implementation. The Guidance for Electric Metering in Federal Buildings was published on February 3, 2006.
 - Requires Federal agencies to submit to the Department of Energy (DOE) an implementation plan identifying personnel responsible for achieving the requirements, and any determination by the agency that advanced meters or metering systems are not practicable in their specific situation.

EPAAct 2005

- Energy-Efficient Product Procurement
- Section 104 of EPAAct 2005 requires that each agency incorporate energy efficiency criteria consistent with ENERGY STAR® and FEMP-designated products for "...all procurements involving energy consuming products and systems, including guides specifications, project specifications, and construction, renovation, and services contracts that include provision of energy consuming products and systems, and into the factors for the evaluation of offers received for the procurement."

EPAAct 2005

- **Energy Savings Performance Contracts**
 - Section 105 extends energy savings performance contracts (ESPCs) from October 1, 2003, through September 30, 2016.

EPAAct 2005

- Building Performance Standards
- Section 109 of EPAAct 2005 includes the following requirements surrounding Federal building performance standards:
 - Directs new Federal buildings—commercial or residential—to be designed 30% below ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) standards or the International Energy Code.
 - Includes the application of sustainable design principles for new buildings.
 - Requires Federal agencies to identify new buildings in their budget requests and those that meet or exceed the standards, which DOE must include in its annual report.

EPAAct 2005

- Renewable Energy Requirements
- Section 203 of EPAAct 2005 includes the following requirements surrounding the purchasing and use of renewable energy by Federal agencies:
 - Requires that the Federal Government ensure renewable electricity consumption meet or exceed 3% from fiscal years 2007-2009, with increases to at least 5% in fiscal years 2010-2012 and 7.5% in 2013 and thereafter.
 - Establishes a double credit bonus for Federal agencies if renewable electricity is produced on-site at a Federal facility, on Federal lands, or on Native American lands.
 - Defines "renewable energy" as electric energy generated from solar, wind, biomass, landfill gas, ocean (including tidal, wave, current, and thermal), geothermal, municipal solid waste, or new hydroelectric generation capacity achieved from increased efficiency or additions of new capacity at an existing hydroelectric project.
- Section 204 of EPAAct 2005 includes the following requirements surrounding photovoltaic (PV) energy use in public buildings:
 - Establishes PV energy commercialization program in Federal buildings.
 - Requires the installation of 20,000 solar energy systems in Federal buildings by 2010.

EPAAct 2005

- Alternative Fuel Use
 - Section 701 states that dual-fueled vehicles acquired pursuant to this section must be operated on alternative fuels unless the Secretary of Energy determines that an agency qualifies for a waiver.

Energy Independence and Security Act

- **Energy Reduction Goals for Federal Buildings**
 - Section 431 amends Section 543(a)(1) of NECPA and adopts the energy intensity reduction goals of Executive Order (E.O.) 13423. The amended NECPA Section 543(a)(1) section now reads as follows:
 - (a) ENERGY PERFORMANCE REQUIREMENT FOR FEDERAL BUILDINGS.—(1) Subject to paragraph (2), each agency shall apply energy conservation measures to, and shall improve the design for the construction of, the Federal buildings of the agency (including each industrial or laboratory facility) so that the energy consumption per gross square foot of the Federal buildings of the agency in fiscal years 2006 through 2015 is reduced, as compared with the energy consumption per gross square foot of the Federal buildings of the agency in fiscal year 2003, by the percentage specified in the following table:

Energy Independence and Security Act

Fiscal Year	Percentage Reduction
2006	2
2007	4
2008	9
2009	12
2010	15
2011	18
2012	21
2013	24
2014	27
2015	30



Energy Intensity based on 2003 baseline.

Energy Independence and Security Act

- **Facility Management/Benchmarking**
- Section 432 amends Section 543 of NECPA and establishes a framework for facility project management and benchmarking. Agencies must identify all "covered facilities" that constitute at least 75% of the agency's facility energy use. A covered facility may be defined as "a group of facilities at a single location or multiple locations managed as an integrated operation." **An energy manager must be designated for each of these covered facilities.**
- Each facility energy manager will be responsible for:
 - Completing comprehensive energy and water evaluations of 25% of covered facilities each year, so that an evaluation of each facility is completed at least once every four years.
 - Following up on implemented measures, including fully commissioning equipment, putting operation and maintenance (O&M) plans in place, and measuring and verifying energy and water savings.
 - Using a DOE Web application to certify and track compliance for energy and water evaluations, project implementation and follow up measures, and estimated cost and savings. The Web application will be available to Congress, other Federal agencies, and the public, with some specific data exempted from disclosure for national security purposes.

Energy Independence and Security Act

- Entering energy use data for each metered building into a benchmarking system, such as the ENERGY STAR® Portfolio Manager. DOE must select or develop the benchmarking system and issue guidance for its use.
- Under Section 432, DOE is directed to issue guidelines on designating energy managers and criteria for covered facilities, as well as guidelines for project implementation and follow-up measures.
- The Office of Management and Budget (OMB) is responsible for issuing semiannual energy management scorecards based on the requirements of EISA Section 432 and make these scorecards available to Congress, other Federal agencies, and the public.
- Section 432 authorizes agencies to use appropriations, private financing, or a combination of appropriations and private financing to comply with its requirements.

Energy Independence and Security Act

- Performance and Standards for New Building and Major Renovations
- Section 323 amends Section 3307 of Title 40, United States Code, dealing with Congressional approval of proposed projects. It requires that the General Services Administration (GSA), in transmitting to Congress a prospectus of a proposed facility, must include:
- ". . .an estimate of the future energy performance of the building or space and a specific description of the use of energy efficient and renewable energy systems, including photovoltaic systems, in carrying out the project.
- In addition:
 - "with respect to space to be leased, [GSA] shall include, to the maximum extent practicable, minimum performance requirements requiring energy efficiency and the use of renewable energy.
 - Section 323 also adds Section 3313 to Chapter 33 of Title 40 on the use of energy-efficient lighting fixtures and bulbs in Federal buildings.
 - Section 433 directs DOE to issue revised Federal building energy efficiency performance standards within one year of its enactment. The revised standards specify that

Energy Independence and Security Act

"...the buildings shall be **designed so that the fossil fuel-generated energy consumption of the buildings is reduced**, as compared with such energy consumption by a similar building in **fiscal year 2003** (as measured by Commercial Buildings Energy Consumption Survey or Residential Energy Consumption Survey data from the Energy Information Agency), by the percentage specified in the following table:

Percentage	Year
55	2010
65	2015
80	2020
90	2025
100	2030

Energy Independence and Security Act

- Section 433 also requires that sustainable design principles be applied to the siting, design, and construction of buildings subject to the standards. A certification system and level for green buildings shall be identified by DOE in consultation with the Department of Defense (DOD) and GSA based on Director of Federal High-Performance Green Buildings (GSA) findings.
- Section 433 directs the Federal Acquisition Regulatory Council to consult with the Federal (GSA) and Commercial (DOE) Directors of Federal High-Performance Green Buildings to revise FAR within two years of enactment of the Act to require Federal officers and employees to comply with the Act's provisions regarding acquisition, construction, or major renovations.
 - FAR Part 23.204 Energy savings performance contracts
 - FAR Part 16.505 Ordering
- The Office of the Federal Procurement Policy is to issue new guidance providing direction and instructions to renegotiate the design of proposed facilities and major renovations for existing facilities to incorporate improvements that are consistent with Section 433.
- Section 434 requires that each Federal agency ensure that major replacements of installed equipment (such as heating and cooling systems) or renovation or expansion of existing space employ the most energy-efficient designs, systems, equipment, and controls that are life-cycle cost effective. Each Federal agency shall:

Energy Independence and Security Act

- "(A) develop a process for reviewing each decision made on a large capital energy investment to ensure that the requirements are met; and
- (B) report to the Director of the Office of Management and Budget on the process established.
- Section 435 prohibits Federal agencies, effective December 19, 2010, from leasing buildings that have not earned an ENERGY STAR label. Exemptions are provided if:
 - No space is available in a labeled building that meets the functional requirements of an agency, including location needs
 - The agency proposes to remain in a building that it has occupied previously
 - The agency proposes to lease a building of historical, architectural, or cultural significance (as defined in section 3306(a)(4) of Title 40, United States Code) or space in such a building
 - The lease is for no more than 10,000 gross square feet of space
- Section 523 requires 30% of the hot water demand in new Federal buildings (and major renovations) to be met with solar hot water equipment, provided it is life-cycle cost-effective.

Energy Independence and Security Act

- High-Performance Buildings
 - Section 436 directs the GSA to establish a Federal High-Performance Green Building Office and Advisory Committee with a Federal Director to coordinate outreach with other agencies, establish green practices and standards for the Federal sector, review/analyze current Federal budget practices and life-cycle costing issues, certification of new and existing Federal facilities as high-performance green buildings, and make recommendations to Congress.
 - Section 421 directs DOE to establish a Director and Office of High-Performance Green Buildings (OBT) to coordinate information and outreach activities targeted at the commercial (non-Federal) sector.
 - Section 439 directs GSA to review the current use of and design a strategy for increased use of cost-effective lighting, ground source heat pumps, and other technologies in GSA facilities.
 - For the purpose of conducting life-cycle cost calculations, Section 441 increases the time period from 25 years in prior law to 40 years.

Energy Independence and Security Act

- Metering
- Section 434(b) amends Section 543(e)(1) of NECPA by inserting after the second sentence the following:
- "Not later than October 1, 2016, each agency shall provide for equivalent metering of natural gas and steam, in accordance with guidelines established by the Secretary under paragraph (2).

Energy Independence and Security Act

• Energy Savings Performance Contracts

- Congress demonstrated its interest in facilitating the use of energy savings performance contracts (ESPCs) by Federal agencies in EISA Title V, Subtitle B. The provisions include the following:
- Section 511 eliminates the advance Congressional reporting requirement for ESPCs that have a cancellation ceiling exceeding \$10 million.
- Section 512 increases ESPC funding flexibility by allowing a combination of appropriated funds and private financing.
- Section 513 restricts Federal agencies from limiting the duration of ESPCs to less than 25 years or limiting the total amount of obligations. Further, this section permits the criteria for savings verification to satisfy the requirement for energy audits. It also directs Federal agencies to modify existing ESPCs to conform to the requirements of this subtitle.

Energy Independence and Security Act

- Energy Savings Performance Contracts (cont)
- Section 514 permanently authorizes ESPCs.
- Section 515 extends the definition of energy savings reduction to include increased use of an existing energy source by cogeneration or heat recovery, use of excess electrical or thermal energy generated from onsite renewable sources or cogeneration, and increased energy-efficient use of water resources.
- Section 516 permits agencies to retain the full amount of energy and water cost savings obtained from utility incentive programs.
- Section 517 authorizes \$750,000 per year over five years for a program to train contract officers in negotiating ESPCs.
- Section 518 directs the DOD and DOE to study the potential use of ESPCs in non-building applications, which is defined to include vehicles and Federally-owned equipment to generate electricity or transport water.

Energy Independence and Security Act

- **Energy-Efficient Product Procurement**
- EISA strengthens energy-efficient product procurement requirements with the following:
- Section 522 prohibits, except under certain circumstances, the purchase of incandescent light bulbs for use in Coast Guard office buildings.
- Section 524 encourages Federal agencies to minimize standby energy use in purchases of energy-using equipment.
- Section 525 requires Federal procurement to focus on ENERGY STAR and FEMP-designated products.
- Section 526 prohibits Federal agencies from procuring synfuel unless its life-cycle GHG emissions are less than those for conventional petroleum sources.

Energy Independence and Security Act

- Office of Management and Budget Reporting
- Section 527 directs each Federal agency subject to any requirements under this title to issue an annual report that describes the status of initiatives to improve energy efficiency, reduce energy costs, and reduce greenhouse gas emissions.
- Section 528 requires the Office of Management and Budget (OMB) to submit an annual report to Congress that:
 - Summarizes the information reported under Section 527
 - Evaluates overall progress toward the goals of Section 527
 - Recommends additional actions needed to meet those goals

Energy Independence and Security Act

- Reducing Petroleum/Increasing Alternative Fuel Use
- EISA Title I, Subtitle C, Section 141 amends Section 303 of the Energy Policy Act of 1992 (EPA Act 1992). It includes definitions for Federal agency, medium-duty passenger vehicle, and member's representational allowance.
- The section also prohibits Federal agencies from acquiring any light-duty motor vehicle or medium-duty passenger vehicle that is not "a low greenhouse gas emitting vehicle" as defined in this subtitle. Alternatively, the agency may demonstrate that it has adopted cost-effective policies to reduce its petroleum consumption sufficiently to achieve a comparable reduction in greenhouse gas emissions.
- Section 142 requires Federal agencies to achieve at least a 20% reduction in annual petroleum consumption and a 10% increase in annual alternative fuel consumption by 2015 from a 2005 baseline. Interim milestones will be established by DOE and agencies will report annually on their progress.
- Section 246 directs each agency to install at least one renewable fuel pump at each Federal fleet fueling center by 2010 and requires annual reporting to Congress on agency progress in complying with this requirement.

GUIDING PRINCIPLES FOR FEDERAL LEADERSHIP IN HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS

- **Optimize Energy Performance**

- Earn Energy Star7 targets

- New construction – reduce energy consumption by 30% per ASHREA 90-1-2004
- Major renovation – reduce energy cost by 20% below pre-renovation 2003 baseline.
 - Project more than \$7.5M are considered Major renovations per DA.



GUIDING PRINCIPLES FOR FEDERAL LEADERSHIP IN HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS

- Optimize Energy Performance (cont)
 - Measure & Verification – Per EAct 2005 – install building level utility meters to track and continuously optimize performance (new & reno)
 - After one year – measure all new major installations using Energy Star 7 benchmarking Tool.
 - Protect & Conserve Water
 - Indoor water: reduce potable water use by 20% of baseline after meeting EAct 1992 fixture performance requirements.
 - Outdoor water: reduce outdoor potable water by 50% - use zero-scape and reuse/recycled water

GUIDING PRINCIPLES FOR FEDERAL LEADERSHIP IN HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS

- Optimize Energy Performance (cont)

- Enhance Indoor Environmental Quality

- **Ventilation & Thermal Comfort:** Meet ASHREA standard 55-2004 (continuous humidity control) and ASHREA Standard 62.1-2004 Ventilation for acceptable Indoor Air Quality
 - **Moisture Control** – establish and implement moisture controls to prevent building damage and mold contamination.
 - **Daylighting**- Achieve a daylight factor of 2% in 75% of all space occupied for critical visual task. Provide automatic dimming controls or manual lighting controls and appropriate glare control.
 - **Low-emitting material** – specify material and products with low pollutant emissions (adhesives, sealants carpet and furnishing)
 - **Protect IAQ during Construction**- follow Sheet Metal & Air Conditioning Contractor's National Association IAQ Guidelines for Occupied Buildings under Construction - 1995. After construction and prior to occupancy conduct a minimum of 72 hours flush-out with maximum outdoor air with relative humidity no greater than 60 %. After occupancy, continue to flush out as necessary to minimize exposure of contaminants from new building materials.

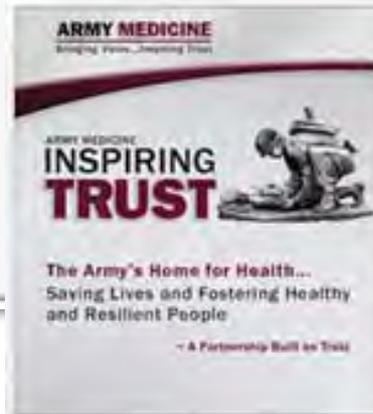
GUIDING PRINCIPLES FOR FEDERAL LEADERSHIP IN HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS

- Optimize Energy Performance (cont)
 - Reduce Environmental Impact of Materials
 - **Recycled Content** – use EPA recommend recycled content recommendation. Use other products with recycled content such that the sum of the post-consumer recycled content plus $\frac{1}{2}$ of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the material in the product.
 - **Bio-based Content** – Use USDA designated products meeting USDA bi-based content recommendations. Use renewable resources and certified sustainable wood products
 - **Construction Waste**: During a project planning stage, identify local recycling and salvage operations that could process site related waste.

EO 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 5, 2009)

- **Accountability & Transparency**

- Prepare Target for agency-wide reductions in 2020 for Greenhouse Gas (GHG) emissions
- Prepare Strategic Sustainability Performance Plan
- Disclose agency efforts and outcomes on publicly available Federal websites
- OMB to evaluate scorecards
- Council on Environmental Quality (CEQ) must ensure federal agencies are held accountable.



EO 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 5, 2009)

- Strategic Sustainability Performance Planning
 - Develop, implement and annually update Strategic Sustainability Performance plans for 2011-2021
 - Establish targets and goals including GHG reduction
 - Integrate into agency's strategic plan and budgeting process
 - Identify activities, policies, plans, procedures and practices relative to EO13514.
 - Identify goals schedules, milestones and approaches and quantifiable metrics
 - Outline planned actions on public accessible websites
 - Evaluate agency climate change risk and vulnerabilities to manage effects of climate change on agency operations and mission.
 - Consider environmental measures and economic benefits, social benefits and cost in evaluation projects and activates based on life-cycle ROI.
 - Annually identify opportunities for improvement and evaluate past performance.

EO 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 5, 2009)

- Greenhouse Gas (GHG) Management
 - Develop GHG targets relative to fiscal 2008
 - In establishing targets, agencies shall consider reduction WRT
 - Reducing agency building energy intensity
 - Increasing renewable energy use and on-site projects
 - Reducing use of fossil fuels by:
 - Using low GHG emitting and alternative fuel vehicles
 - Optimizing vehicles numbers
 - Reducing fleet consumption of 20 or more vehicles by 2% per year till 2020 (baseline of 2005)

EO 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 5, 2009)

- Sustainable Building and Communities
 - Implement high performance sustainable Federal building design, construction, operation and management, maintenance and deconstruction by:
 - Ensuring all new federal building entering the design phase in 2020 or later are designed to achieve Net Zero Energy by 2030
 - Ensure all new construction, major renovation, or repair or alteration of Federal buildings comply with the Guiding Principles of Federal Leadership in High Performance and Sustainable Buildings
(<http://www1.eere.energy.gov/femp/pdfs/mouhighperfsustainfedfacs.pdf>)
 - Ensure at least 15% of existing agency building (above 5,000SF) meet Guiding Principle by fiscal year 2015 & making progress to 100% compliance across its building inventory.



EO 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 5, 2009)

- Sustainable Building and Communities (cont)
 - Pursuing cost-effective, innovative strategies (e.g., highly-reflective and vegetated roofs) to minimize consumption of energy, water, and materials.
 - Managing existing building systems to reduce the consumption of energy, water, and materials, and identifying alternatives to renovation that reduce existing asset deferred maintenance costs.
 - When adding assets to agency building inventories, identifying opportunities to:
 - Consolidate and eliminate existing assets.
 - Optimize the performance of portfolio property.
 - Reduce associated environmental impacts.
 - Ensuring rehabilitation of Federally-owned historic buildings utilizes best practices and technologies in retrofitting to promote long-term viability of the building

EO 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 5, 2009)

• **Water Efficiency**

- Federal agencies must improve water efficiency and management by:
 - Reducing potable water consumption intensity 2% annually through fiscal year 2020, or 26% by the end of fiscal year 2020, relative to a fiscal year 2007 baseline.
 - Reducing agency industrial, landscaping, and agricultural water consumption 2% annually, or 20% by the end of fiscal year 2020, relative to a fiscal year 2010 baseline.
 - Identifying, promoting, and implementing water reuse strategies consistent with state law that reduce potable water consumption.



EO 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 5, 2009)

- **Electronic Products and Services**

- E.O. 13514 includes product efficiency and stewardship.

Federal agencies must:

- Ensure 95% of new contract actions, task orders, and delivery orders for products and services (excluding weapon systems) are energy efficient (ENERGY STAR® or FEMP-designated), water efficient, bio-based, environmentally preferable (Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, contain recycled content, or are non-toxic or less-toxic alternatives where such products and services meet agency performance requirements.
- Implement best management practices for the energy-efficient management of servers and Federal data centers.

EO 13514 Federal Leadership in Environmental, Energy and Economic Performance (Oct 5, 2009)

- **Pollution Prevention and Waste Reduction**
- E.O. 13514 includes the following pollution prevention and waste reduction requirements for Federal agencies:
 - Minimize the generation of waste and pollutants through source reduction.
 - Decrease agency use of chemicals where such decrease will assist the agency in achieving greenhouse gas reduction targets.
 - Divert at least 50% of non-hazardous solid waste by the end of fiscal year 2013.
 - Reduce printing paper use and acquiring uncoated printing and writing paper containing at least 30% post-consumer fiber.
 - Increase the diversion of compostable and organic material from the waste stream.

Executive Order (E.O.) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (Jan 24, 2007)

- Implementing Instructions
 - OMB & Chairman of the Council of Environmental Quality issued instruction
 - http://www.fedcenter.gov/_kd/Items/actions.cfm?action=Show&item_id=6825&destination>ShowItem

Executive Order (E.O.) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (Jan 24, 2007)

- **Reducing Energy Intensity**

- E.O. 13423 requires Federal agencies to reduce energy intensity by 3% each year, leading to 30% by the end of fiscal year (FY) 2015 compared to an FY 2003 baseline. This goal was given the weight of law when ratified by EISA 2007.

- **Increasing Use of Renewable Energy**

- To comply with E.O. 13423, Federal agencies must ensure that at least half of all renewable energy required under EPLA 2005 comes from new renewable sources (developed after January 1, 1999).
- To the maximum extent possible, renewable energy generation projects should be implemented on agency property for agency use. Agencies can also purchase renewable energy to help meet E.O. 13423 requirements.

Executive Order (E.O.) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (Jan 24, 2007)

- Reducing Water Intensity
 - E.O. 13423 mandates that Federal agencies reduce water intensity (gallons per square foot) by 2% each year through FY 2015 for a total of 16% based on water consumption in FY 2007

Fiscal Year	Percentage Reduction
2008	2
2009	4
2010	6
2011	8
2012	10
2013	12
2014	14
2015	16

Water audits, leak detection & repair, water efficient landscaping & irrigation, toilets & urinals, faucet & shower heads, boiler & steam systems, cooling towers, kitchen equipment, medical & lab

Executive Order (E.O.) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (Jan 24, 2007)

- **Designing and Operating Sustainable Buildings**

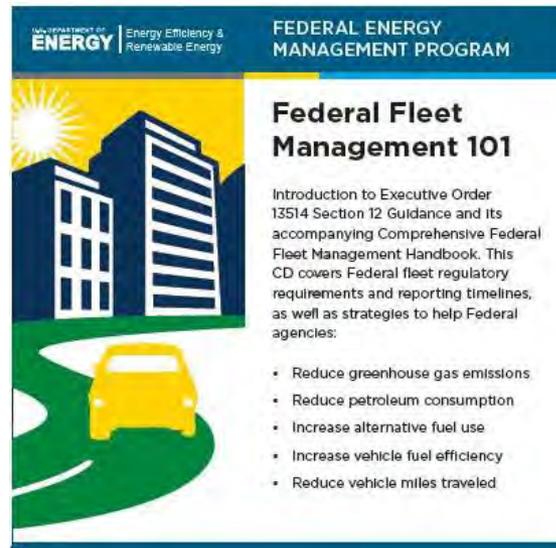
- E.O. 13423 requires Federal agencies to ensure new construction and major renovations comply with the 2006 Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (MOU), which was signed at the White House Summit on Federal Sustainable Buildings. It also requires that **15%** of the existing Federal capital asset building inventory of each agency incorporate the sustainable practices in the Guiding Principles by the end of fiscal year 2015.
- E.O 13423 Guidance on Sustainability includes revised **Guiding Principles** for new construction, new Guiding Principles for existing buildings, clarification of reporting guidelines for entering information on the sustainability data element (#25) in the Federal Real Property Profile, and an explanation of how to calculate the percentage of buildings and square footage that are compliant with the Guiding Principles for agencies' scorecard input.



Executive Order (E.O.) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (Jan 24, 2007)

• **Managing Federal Fleets**

- With E.O. 13423, Federal agencies with 20 or more vehicles must ensure fleet petroleum reduction of 2% each year measured against baselines set in fiscal year 2005. Federal agencies must also increase use of alternative fuels by 10% each year compared to the previous year. E.O. 13423 also covers the use of plug-in hybrids



Army Sustainability Sync

- Army Sustainability Campaign Plan issues 12 May 2010
 - References Defense Strategic Sustainability Performance Plan 2 June 2010
 - Executive Order 13423 – Strengthening Federal Environmental, Energy and Transportation Management, 26 January 2007
 - EO 13514, Federal Leadership in Environmental, Energy and Economic Performance, 5 October 2009

Annex A -- Synchronization Matrix

TASK #	TASK TITLE	OPR	OCR	SUSPENSE	STATUS	COMMENTS	LINKAGE TO ARMY IMPERATIVE	AREAS OF COORDINATION & EXECUTION							
								Energy	Water	Planning & Conservation	Waste	Air	Intergency & Intergovernmental Cooperation	Contingency Operations	Sustainable Acquisition
10-1	Establish a Sustainability Coordinator on the Enterprise Task Force (ETF), then integrate the Army Sustainability Campaign Plan (ASCP) into the Army Campaign Plan.	ACSIM	ASA(I&E)	Estab Coordinator: Jan 2010 Estab Annex to ACP: NLT Oct 2010			Transform	X	X	X	X	X	X	X	X
10-2	Implement the sustainability Strategic Communications Plan	HQDA & all applicable ACOMs, ASCCs, DRUs, & Reserve Component	OCPA	FY10			Transform	X	X	X	X	X	X	X	X
10-3	Develop fiscal policy that incentivizes sustainability investments and include sustainability in the POM	ASA(FMC)	ABO & applicable PEG owners	Oct 2010			Transform	X	X	X	X	X	X	X	X
10-4	Incorporate sustainability language into all appropriate Army regulations, DA PAMS, TCs, and FMs as they are updated	HQDA	OAA	Oct 2012			Transform	X	X	X	X	X	X	X	X
10-5	Develop subordinate goals, objectives, & metrics consistent with the Army Sustainability Campaign Plan	AMC, FORSCOM, TRADOC, & ACSIM	All Echelons	Oct 2012			Transform	X	X	X	X	X	X	X	X
10-6	Incorporate sustainability considerations into their organizational plans (e.g., strategic plans, business plans, human resource plans, IT and knowledge management plans, real property plans)	All ACOMs, ASCCs, DRUs, & Reserve Component	All Echelons	Oct 2010			Transform	X	X	X	X	X	X	X	X
10-7	Implement the Army Energy Security Implementation Strategy	Army Senior Energy Executive	ACOMs, ASCCs, DRUs, & Reserve Component	2025	ongoing		Sustain, Reset, Prepare, Transform	X	X	X	X	X	X	X	X
10-8	Incorporate sustainability into all appropriate professional military and civilian training	TRADOC	G-1 & ASA(MR&A)	Apr 2011			Sustain	X	X	X	X	X	X	X	X
10-9	Establish/leverage partnerships with academia and surrounding communities to support a sustainable workforce	TRADOC & ACSIM	IMCOM, AMC, ARNG, & USARC	Oct 10			Sustain						X		
10-10	Revise acquisition and procurement policy & practices to instill sustainability principles; establish a Key Performance Parameter (KPP) for sustainability	ASA(ALT)	AMC, FORSCOM, TRADOC, & ACSIM	Oct 10			Reset	X	X	X	X	X	X		X

Annex A -- Synchronization Matrix

TASK #	TASK TITLE	OPR	OCR	SUSPENSE	STATUS	COMMENTS	LINKAGE TO ARMY IMPERATIVE	AREAS OF COORDINATION & EXECUTION							
								Energy	Water	Planning & Conservation	Waste	Air	Intergovernmental Cooperation	Contingency Operations	Sustainable Acquisition
10-11	Develop and fully implement green procurement policies that enable the purchase of sustainable products and services	ASA(ALT)	AMC, FORSCOM, TRADOC, & ACSIM	Oct 10			Reset	X	X	X	X	X	X	X	X
10-12	Utilize the sustainability KPP & life-cycle costing in all acquisition and procurement decisions	ASA(ALT)	AMC, FORSCOM, TRADOC, & ACSIM	Apr 11			Transform	X	X	X	X	X	X	X	X
10-13	Develop and promulgate enterprise planning processes that integrate sustainability principles across organizational lines and throughout functional plans (e.g., integrated logistics support plans, depot maintenance plans, fielding plans, new equipment training plans, test plans, etc.)	ASA(ALT)	AMC	Oct 11			Reset	X	X	X	X	X			X
10-14	Implement the EO 13423-driven Toxic & Hazardous Chemical Reduction Plan for Army materiel, and subsequent EO 13514 adjustments.	AMC	ASA(I&E) & ACSIM	Dec 09	ongoing		Sustain			X	X	X	X		X
10-15	Review and evaluate additional chemicals for inclusion in the Army's Toxic & Hazardous Chemical Reduction Plan. Establish baseline and targeted reductions for a minimum of three additional chemicals per CY.	ACSIM	AMC	Annually, beginning in Oct 10			Sustain			X	X	X	X		X
10-16	Determine the proponent for Sustainable Contingency Operations	TBD	ASA(I&E) & ACSIM	Jan 2010			Prepare			X				X	
10-17	Develop Sustainable Contingency Operations through Policy - DOTMLPF - Resources	TBD	ASA(I&E) & FORSCOM	Dec 2012			Prepare							X	
10-18	Incorporate sustainability in policy and plans for support to COCOMs	ASCCs	ASA(I&E) & FORSCOM	Dec 2012			Prepare							X	
10-19	Consolidate and republish existing Army policy, criteria, and guidance on sustainability for new construction and major renovations	ASA(I&E)	ACSIM	Sep 2010			Sustain	X	X	X			X		
10-20	Fully implement the Army Cleanup Strategy, with a focus on green remediation wherever cost effective	ACSIM	ASA(I&E), DAIM-ODB-D, USACE, IMCOM, & ARNG	Apr 10			Sustain	X	X	X	X	X	X		
10-21	Achieve the EO 13423 water conservation goals, and expand to address EO 13514 requirements for potable, industrial, landscaping, and agricultural water use, as well as stormwater management (including low impact development)	ACSIM	IMCOM, AMC, ARNG, & USARC	2% annually through 2020		Reported via Annual Energy Report	Sustain		X	X					

Annex A -- Synchronization Matrix

TASK #	TASK TITLE	OPR	OCR	SUSPENSE	STATUS	COMMENTS	LINKAGE TO ARMY IMPERATIVE	AREAS OF COORDINATION & EXECUTION								
								Energy	Water	Planning & Conservation	Waste	Air	Interagency & Intergovernmental Cooperation	Contingency Operations	Sustainable Acquisition	
10-22	Incorporate sustainability into Installation Strategic Plans and other installation plans as they are updated	IMCOM, AMC, ARNG, & USARC	All Echelons	Jan 13			Sustain	X	X	X	X	X	X			X
10-23	Incorporate sustainability and incentivize and resource sustainability solutions in appropriate Services & Infrastructure contracts as they are awarded or modified	ACSIM	ASA(I&E)	Initiate in Jan 10			Transform	X	X	X	X	X				X
10-24	Complete greenhouse gas assessments and prepare/submit annual reports (beginning in FY10)	ACSIM	ASA(I&E)	8 Jan 2011 & annually (on 31 Jan) thereafter		Report via Annual Energy Report	Sustain	X				X				
10-25	Achieve greenhouse gas reduction goals	ACSIM	ASA(I&E) & AMC, ARNG, & USARC	TBD		New goals, timeframes, & guidelines are being established by EPA & OSD	Sustain	X				X				
10-26	Review and update the Army's Pollution Prevention (P2) strategic plan and revise implementation guidance to align with sustainability principles	ACSIM	ASA(I&E) & AMC	Oct 2010			Sustain	X	X	X	X	X	X	X	X	X
10-27	Develop guidance for: (a) conducting installation/facility-level Vulnerability and Risk Assessments to analyze Global Climate Change (GCC) impacts to mission, and (b) programming for GCC adaptation and mitigation measures.	ACSIM	ASA(I&E)	Sep 2010			Sustain	X	X	X	X	X	X			X
10-28	Complete the Vulnerability and Risk Assessments during scheduled updates of installation/facility-level management plans. Program for GCC adaptation and mitigation measures in future POM cycles.	ACSIM	AMC, IMCOM, MEDCOM, ARNG, & USARC	next Management Plan update/revision cycle			Sustain	X	X	X	X	X	X			X

Discussion