RECORD VERSION

STATEMENT BY

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DEPUTY ASSISTANT SECRETARY OF THE ARMY FOR
INSTALLATIONS, ENERGY, AND ENVIRONMENT
ENERGY AND SUSTAINABILITY

BEFORE THE

SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE
SUBCOMMITTEE ON GREEN JOBS AND THE NEW ECONOMY AND OVERSIGHT
UNITED STATES SENATE

SECOND SESSION, 112TH CONGRESS

ENVIRONMENTAL PROTECTION AGENCY'S (EPA) WORK WITH OTHER FEDERAL ENTITIES TO REDUCE POLLUTION AND IMPROVE ENVIRONMENTAL PERFORMANCE

MARCH 27, 2012

NOT FOR PUBLICATION
UNTIL RELEASED BY
SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE

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INTRODUCTION

Mr. Chairman and members of the Subcommittee, it is a pleasure to appear before you to discuss the Army's Energy Security and Sustainability Program and partnerships. With your support, coupled with the President's vision for Energy Security and Sustainability, the Army will achieve improved access to reliable supplies of energy, the ability to protect and deliver sufficient energy to meet operational needs and reduced energy costs.

The Army requires secure and uninterrupted access to energy. Investment in energy capabilities, including renewable energy and energy efficient technologies will help ensure the Army can meet mission requirements today and into the future. We are moving forward to ensure the Army of tomorrow has the same or greater access to energy, water, land, and natural resources as the Army of today. Reducing energy use across the Army is mission critical, operationally necessary and financially prudent.

OVERVIEW

The Army is addressing Energy Security through the development of a force-wide energy doctrine and operating principles. Technological investments, operational training, education and facilities management are all critical aspects of instilling a mindset of conservation, efficiency and sustainability.

The Army recognizes the value of collaboration and to this end we work closely with a variety of public and private organizations to meet our energy security requirements. Some of the Federal government agencies the Army collaborates with include the Offices of the Secretary of Defense, other military Services, Environmental Protection Agency, OMB, Department of Energy, Department of Interior, and the General Services Administration. Examples of these collaborations include a Memorandum of Understanding (MoU) between the Department of Defense and the Department of Energy on efforts to enhance national Energy Security, a MoU between the Department of the Army and the Environmental Protection Agency on water, and a MoU between the Department of Energy and the Army's Tank Automotive Research, Development and Engineering Center (TARDEC) on vehicle development.

The Army is leveraging the authorities given to us by the President and the Congress. Authority to enter into power purchase agreements, enhanced use leases and energy performance contracts attract outside investments. Investments are geared toward long-term installation energy resource management that benefits both Army and industry. In the area of Operational Energy, we expect projects to make positive contributions to mission success through reduced fuel demand on the battlefield, increased capability, reduced energy weight carried by a Soldier on patrol, and more energy-informed operations.

The Army's Energy Program planned activities and project execution for FY13 include: $393 million in appropriated funds; $400 million in Energy Savings Performance Contract / Utilities Energy Services Contract awards; and $700 million in renewable energy projects. Using Council of Economic Advisor ratios, we anticipate generating more than 16,000 jobs.

BASE / INSTALLATION ENERGY

The Army is the largest facilities energy user in the Federal Government, using roughly one fifth of the Government's total facilities consumption. Since FY 2003 the Army has reduced its installation energy consumption by 13 percent while its total number of active Soldiers and civilians has increased by 20 percent.

Energy Security on our Installations require: a) energy efficient buildings, b) on-site power generation, and c) a secure micro-grid with energy storage that can match power with key loads. The Army is making investments in each of these areas.

Army Energy Program

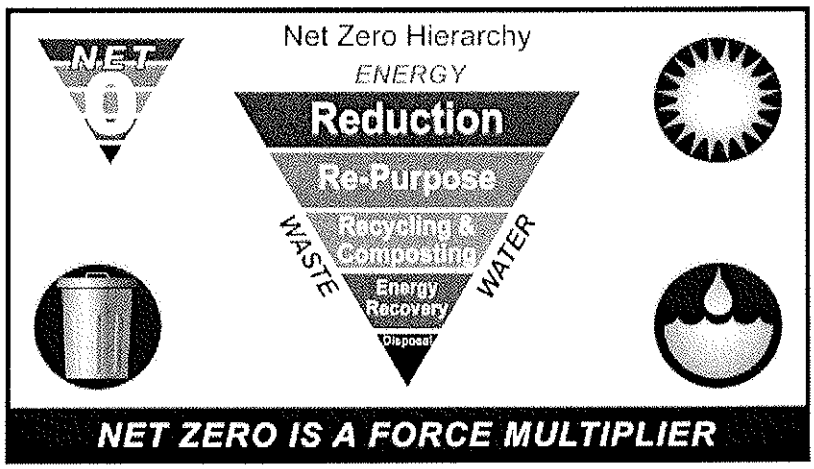
The Army's invests in areas such as efficiency, on-site energy production and grid security. When developing energy projects to be funded with appropriated dollars, the Army subjects these projects to a Cost Benefit Analysis (CBA) process to ensure that the Army will receive a reasonable return on investment. The Army has initiated several policies to promote Energy Security. The Army has adopted the most stringent building code in the Federal Government, ASHRAE Standard 189.1, which will reduce energy and water consumption on average by 40 percent annually in our new construction program and in existing facilities that undergo major renovations.

While internally the Army is focusing and prioritizing investments towards Energy Security, we are very mindful of and trying to achieve the goals for reduction in installation energy that Congress and the President have mandated. The Army energy goals include a 30% reduction in facilities energy intensity by 2015 from the 2003 baseline; generation of

25% of energy from renewable resources by 2025; and reduction in petroleum use in non-tactical equipment by 20% by 2015.

Integral to all of our efforts is culture change and a need to take a holistic integrated design approach, which can be found in the Net Zero Initiative. In FY11, the Army announced the Net Zero Initiative (Figure 1), which will provide significant security benefits to installations while working to meet Congressional and Presidential goals. The Net Zero initiative is advancing an integrated approach and will improve the management of energy, water, and waste. Net zero installations will move closer to the objective of consuming only as much energy or water as they produce and eliminate solid waste to landfills. When fully implemented, Net Zero installations will establish model Army communities for energy security, sustainability, value, and quality of life. Seventeen installations have been identified for this effort, with plans of striving toward Net Zero by 2020.

Figure 1: Net Zero Initiative



The installations piloting this initiative have already had successes. In support of its Net Zero Water Installation goals, Tobyhanna Army Depot (TYAD) used Army Working Capital Fund (AWCF) resources for an in-

house project that replaced potable water with processed wastewater for foam reduction in two locations at its wastewater treatment plant. The project cost of $1,200 will result in savings of 300,000 gallons of potable water per month. The project paid for itself in just over one month.

Also using AWCF, TYAD installed a water chiller to replace a single-pass cooling system in an Industrial Operations Facility. This project saves over two million gallons of potable water per month. A payback period of 8 months is expected to cover project costs of $125,000.

In addition to the Army resources for water intensity reduction, we have partnered with the federal Environmental Protection Agency's Office of Research and Development to maximize the Army's Net Zero initiative. On 28 November 2011, Ms. Katherine Hammack, the Assistant Secretary of the Army for Installations, Energy and Environment and Dr. Paul Anastas, the EPA's Assistant Administrator for Research and Development and the Science Advisor to the Administrator during this time, signed a Memorandum of Understanding to formalize the collaboration between the two organizations. The Army and EPA are working jointly to advance the development of new science-based applications and technologies that can be implemented to achieve Net Zero Energy, Water, and Waste goals at Army installations. Initial planning meetings with Fort Riley, KS and Joint Base Lewis McChord are underway. Technologies and science-based approaches include:

- Increase efficiency and recovery of energy and materials from wastewater
- Incorporate design and use of Green Infrastructure in storm water management
- Address the energy/water nexus

- Address social and behavioral components of introducing new technologies
- Aid in understanding of water, energy, and material flows and interactions within systems, and
- Incorporate water and energy security and climate-ready solutions into technology approaches

The Army-EPA MOU complements the DoD-EPA Memorandum of Understanding signed on 7 February 2012.

Renewable Energy

To streamline the process of developing large scale renewable energy projects on Army lands we have established the Energy Initiatives Task Force (EITF). The EITF is integral to the Army addressing rising energy security challenges and escalating fuel prices. Through the EITF, the Army will secure renewable electricity on our installations. The EITF serves as a central management and negotiation office to augment installation staff for the development of renewable energy projects greater than 10 MW. Their objective is to obtain secure, sustainable, and affordable energy from a diversity of sources. The EITF is dedicated to working with the private sector to streamline the process to help speed overall project development timelines and ensure the best value to the Army and private sector. The EITF is currently evaluating 15 projects at eight installations to determine feasibility for further development and has identified further opportunities at 21 installations.

Energy Security Projects

Energy security projects are specifically focused on assurance of electrical service. Projects programmed for energy security are ones to upgrade electrical power distribution systems, harden transformers, and provide back-up power capability.

The Army is also working to develop "Smart" grid capabilities on its installations. The technology and processes in this area are still emerging. The Army is making investments in "Smart" grids to develop and acquire these technologies for use at our fixed installations and in contingency operations.

Alternative Financing

The Army is the largest user of Energy Performance Contracting in the Federal Government. Energy Savings Performance Contracts (ESPCs) and Utilities Energy Service Contracts (UESCs) are contracts where private companies / servicing utilities provide initial private capital investment to execute projects, and are repaid from realized energy savings. To date the Army has implemented ESPCs at 72 installations, representing more than $1 billion in private sector investment, more than 5,860 billion British Thermal Units (BTU) energy savings per year. The Army has also implemented UESCs at 43 installations representing more than $500 million in private sector investment, more than 3,590 billion BTU energy savings per year. The Army plans to expand the use of these contracts. In the first quarter of FY12, the Army has executed $93 million of contracts, more than the total contracts executed in FY11 ($74M).

Conclusion

In conclusion, the Army is working diligently to improve our Energy Security posture. To do this the Army is working closely with other federal agencies such as the Department of Energy and the Environmental Protection Agency. The ability for the Army to produce, store, dispense and manage its own energy, with reduced reliance upon outside sources, will greatly enhance our performance goals. Reduced reliance means increased mobility by not being tethered to supply lines, foreign suppliers and volatile energy markets. Investment in energy capabilities, including renewable energy and energy efficient technologies will help ensure the Army can meet mission requirements today and into the future. Not only is it the smart thing to do; it is the right thing to do from both an operational and financial stand point.