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Statement of

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Military Construction, Veterans, and Related Agencies

of the

House Appropriations Committee

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Chairman Edwards, Representative Wamp, and distinguished members of the subcommittee: thank you for the opportunity to present the President's Fiscal Year 2011 budget request for the Department of Defense programs that support our installations.

Installations are the military's infrastructure backbone—the platform from which our soldiers, sailors, airmen and marines accomplish their missions. Installations have long supported the maintenance and deployment of weapons systems and the training and mobilization of combat forces. Increasingly, they have an even more direct link to combat operations, by providing "reachback" support. For example, we operate Predator drones in Afghanistan from a facility in Nevada and analyze battlefield intelligence at data centers in the United States. Our installations are also becoming more important as a staging platform for homeland defense missions.

Installations affect not just our mission effectiveness but the very quality of life that our service members and their families enjoy. Families' satisfaction with the most critical services they receive—housing, healthcare, childcare, on-base education—is linked to the quality and condition of our buildings and facilities.

The Department must manage its installations—the natural as well as the built environment—efficiently and effectively. This is a major challenge. The Department's 507 permanent installations comprise more than 300,000 buildings and 200,000 other structures—everything from bridges to flagpoles—and have an estimated replacement value of more than $800 billion. These installations are located on some 5,000 sites and occupy 28 million acres of land here in the United States and overseas. These lands are home to archaeological and sacred sites, old-growth forests and more than 300 threatened and endangered species.

Today, I will focus on the key elements of the budget that support our installations: Military Construction, including Overseas Contingency Operations and International Basing; Base Realignment and Closure; and Family Housing. I will also discuss our Facilities Sustainment, Restoration and Modernization programs. Finally, I will describe our strategy for improved management of energy at our installations.

I. MILITARY CONSTRUCTION, BRAC AND FAMILY HOUSING

The FY 2011 Military Construction (MilCon) and Family Housing appropriations request totals more than $18.7 billion, a decrease of approximately $4.6 billion from the FY 2010 enacted level. This decrease primarily reflects the decline in the level of investment needed for BRAC 2005 as we approach the statutory deadline for completion (September 2011). This budget request will allow the Department to respond rapidly to warfighter requirements, enhance mission readiness and provide essential services for its personnel and their families.

Comparison of Military Construction and Family Housing

($ Millions)	FY 2010 Enacted	FY 2011 Requested
Military Construction	12,545.8	13,705.7
Base Realignment and Closure IV	496.7	360.5
Base Realignment and Closure 2005	7,455.5	2,354.3
Family Housing Construction/Improvements	488.8	356.8
Family Housing Operations & Maintenance	1,444.1	1,448.7
Chemical Demilitarization	151.5	125.0
Family Housing Improvement Fund	2.6	1.1
Energy Conservation Investment Program	174.2	120.0
NATO Security Investment Program	197.4	258.9
Homeowners Assistance Program	323.2	16.5
TOTAL	**23,279.8**	**18,747.5**

Military Construction

Our request for "pure" military construction (i.e., exclusive of BRAC and Family Housing) is $13.7 billion. This is a $1.2 billion increase over last year's enacted level ($12.5 billion). Let me highlight three areas where we focus our FY 2011 MilCon budget request.

First and most important, the budget request supports operational mission requirements. MilCon is key to initiatives such as Grow the Force and Global Defense Posture realignment, which require the synchronized movement of troops and equipment, as well as to the fielding of modernized and transformational weapon systems. Our budget request includes training and support facilities to accommodate the increases in the Army and Marine Corps endstrength; initial funding for the new and improved infrastructure needed to relocate 8,000 Marines and their dependents from Okinawa to Guam; support for the bed down of the Joint Strike Fighter; improved and expanded communications and intelligence capabilities for Special Operations Forces; and fuel distribution facilities for the Defense Logistics Agency.

Second, the President's budget request initiates a major recapitalization of our DoD-dependent schools here in the United States and overseas. Fully 134 of the 192 DoD-dependent schools are in poor or failing physical condition—the result of longstanding underinvestment by the Department. Many of these schools have simply lasted beyond their expected service life. Others are improperly configured, lacking in essential capabilities, or reliant on temporary structures. The FY 2011 budget request

includes $439 million to repair or replace ten of these schools. This represents the first phase of a 5-year plan to recapitalize all 134 inadequate schools.

Third, the FY 2011 budget request includes more than $1 billion to upgrade our medical infrastructure. By modernizing our hospitals and related facilities, we can improve healthcare delivery for our service members and their families, and enhance our efforts to recruit and retain personnel. The FY 2011 request provides funds for our top two priorities: the replacement of the Naval Hospital in Guam and the Ambulatory Care Center at Lackland Air Force Base, Texas. It also allows us to continue improving the chemical/biological defense facilities that are conducting such vital work.

Overseas Contingency Operations

Military construction serves as a key enabler in Overseas Contingency Operations (OCO), by providing the facilities that directly support military activity. Our FY 2011 budget request includes $1.3 billion for MilCon necessary to support the new strategy for counterinsurgency and increased force levels for ongoing OCO in the U.S. Central Command's area of responsibility. Specifically, our FY 2011 budget request expands the logistical and facilities backbone needed to increase our operational capability, replaces expeditionary facilities at the end of their lifecycle, consolidates functions and facilities, and supports Special Operations Forces. These additional operational facilities will provide support for tactical airlift; airborne intelligence, surveillance and reconnaissance; and additional fuel, storage, and cargo handling and distribution capability at critical locations. The request also provides for replacement of temporary housing, dining facilities and other basic infrastructure.

International Basing

To project power globally, the Department must have the right mix of military forces and facility infrastructure at strategic locations. We are undergoing a global re-stationing, both to strengthen our forward military presence and to transform overseas legacy forces, Cold War basing structures and host-nation relationships into a flexible network of capabilities to which we and our allies and partners have shared access.

My office works closely with the Joint Staff and other Defense organizations to ensure that our overseas base structure supports the needed range of strategic missions across all theaters. While our work on overseas basing has traditionally focused primarily on the cost and engineering aspects of military construction and sustainment/recapitalization, we have recently taken on a broader role in support of emerging global posture initiatives: increasingly, we provide analytic input to strategic discussions, by evaluating existing infrastructure capacity relative to emerging mission requirements.

Our goal is to ensure that decisions reflect joint planning and rigorous analysis that integrates requirements across all of the Services. Current focus areas include: providing guidance and monitoring in support of the Army's consolidation of command and control activities in Weisbaden, Germany; analysis and evaluation of options for full recapitalization of the Landstuhl Regional Medical Center in Germany; and analysis and support for efforts to relocate more than 8,000 Marines and their dependents from Okinawa to Guam.

Rebasing Marines from Okinawa to Guam

The realignment of Marines from Okinawa to Guam, which is perhaps the most significant change in our force posture in Asia in decades, will further several strategic goals. First, it will strengthen our alliance with Japan by resolving long-standing problems with our presence in Okinawa. Second, it will ensure the continued long-term presence of U.S. forces in Japan and in the Western Pacific. Third, by making better use of Guam's strategic advantages, this realignment will more effectively array U.S. forces for the complex and evolving security environment in Asia.

The political situation in Japan remains extremely delicate and the stakes are high. The U.S. Government is unlikely to get another opportunity to craft a strategic realignment that not only enhances our regional force posture but also incorporates more than $6 billion of Japanese financing. The Government of Japan has undergone a transition with the creation of the Democratic Party of Japan (DPJ)-led government in September 2009. The DPJ leadership, working with coalition partners, has initiated a process to review the Realignment Roadmap before endorsing the agreement in full, which is expected to happen in May 2010. The U.S. government remains committed to successful implementation of the Realignment Roadmap because it provides a needed solution to critical strategic challenges to the long-term presence of U.S. military capabilities in Japan and the Asia-Pacific region.

The FY 2011 President's Budget request includes $452 million to support the relocation of Marines from Okinawa to Guam. This includes projects to upgrade the wharf, provide utilities, ramp and roadway improvements, and carry out site preparation and utilities construction for the Marines' main cantonment area. These projects will yield long-term benefits for all the military forces on Guam. They will also demonstrate the Department's commitment to working with the Governor of Guam, whose strong support for the relocation can have a significant impact on Guam's population.

In support of the relocation, the Department released the Draft Environmental Impact Statement (DEIS) on November 20, 2009, for public review. In addition to the analysis for rebasing of the Marines, the DEIS also includes analysis for construction of a new deep-draft wharf with shore-side infrastructure to support a transient nuclear-

powered aircraft carrier, and facilities and infrastructure to support establishment and operation of an Army Missile Defense Task Force. The public comment period for the DEIS ended February 17, 2010. The Department is working with the Council on Environmental Quality, the Environmental Protection Agency and other resource agencies to address the concerns that were raised by the federal agencies and the public.

To address challenges regarding the realignment and to provide the appropriate oversight, the Department last year established the Guam Oversight Council (GOC), chaired by the Deputy Secretary of Defense. The GOC meets regularly to validate requirements, identify and resolve issues, provide resource guidance and clarify governance structures. Initial challenges taken up by the GOC include the aggressive timeline for completion of the realignment of Marines from Okinawa to Guam; safety of the Futenma Replacement Facility in Okinawa; adequacy of training in the Pacific; strategic, operational, and logistic implications of posture changes in the Pacific; and successful partnership with the Government of Guam.

Base Realignment and Closure

Domestic basing is no less important than international basing, and we rely heavily on the Base Realignment and Closure (BRAC) process to adapt and improve that basing structure. We are entering our sixth and final year of implementation of BRAC 2005, the largest BRAC round undertaken by the Department. BRAC 2005 has been a significant engine for the recapitalization of our enduring military facilities. By the end date (September 15, 2011), the Department will have invested $24.7 billion in military construction to enhance capabilities and another $10.4 billion to move personnel and equipment, outfit facilities, and carry out environmental clean-up. These investments will generate nearly $4 billion in annual savings beginning in FY 2012. The DoD components have implemented BRAC 2005 conscientiously and transparently, according to a well-defined process. The Department continues to monitor the process closely to ensure that we are meeting our legal obligations. To date, 28 BRAC 2005 recommendations have been certified as completed.

The FY 2011 President's Budget includes $2.4 billion for BRAC 2005, which fully funds the investments needed to complete implementation. This represents a $5.1 billion decrease from the FY 2010 enacted level for BRAC 2005. The reduction in funding is due primarily to a decrease in construction projects as we near the September 2011 completion date. To support continued property disposal actions at Prior-BRAC round sites, the FY 2011 budget request includes $360.5 million, a decrease of $136 million from the FY 2010 enacted level.

Environmental cleanup at BRAC locations is essential in putting unneeded property back in the hands of local communities. The total BRAC environmental budget request for FY 2011 is $445 million ($108 million for BRAC 2005 sites and $337 million for

Prior-BRAC round sites). These funds will help us continue to meet stakeholder expectations and complete cleanup at an additional 154 sites impacted by BRAC decisions. Although this request represents a decrease of $109 million over the FY 2010 request, the reasons for the drop are positive. Specifically, the decrease is due to a) contract efficiencies, such as those achieved through performance-based acquisition and competitive bidding, and b) bid cost savings--a silver lining in the economic downturn. In addition, as the Military Departments have refined their characterization of munitions sites, they have found that fewer acres will require cleanup, which has lowered projected costs.

Comparison of Base Realignment and Closure Funding

($ Millions)	FY 2010 Enacted	FY 2011 Requested
Base Realignment and Closure IV	496.7	360.5
Base Realignment and Closure 2005	7,455.5	2,354.3
TOTAL	**7,952.2**	**2,714.8**

Despite our progress and the significant investment we have made, the Department has been perceived as ignoring the impacts of its actions, particularly in some communities that are experiencing significant growth as a result of BRAC 2005 consolidation. One area where growth can have an adverse impact is local transportation. Transportation impacts have been and will continue to be mitigated through the application of our authority and funding under the Defense Access Road (DAR) program. The criteria used to determine whether a project qualifies under DAR are limited, however. In particular, they may not adequately address the scenario in which a defense action causes a significant increase in traffic congestion, as may occur in one or more cases as a result of BRAC 2005 consolidation.

To address this and related issues, the National Academy of Sciences is undertaking a BRAC Transportation Improvements Study as required by the FY 2010 Military Construction and Veterans Affairs and Related Agencies Consolidated Appropriations. A blue-ribbon panel named by the National Academy's Transportation Research Board will evaluate the DAR criteria and assess the funding of transportation improvements associated with the BRAC 2005 program. We hope to receive an interim report in May of this year.

One of the most important initiatives with a basis in BRAC 2005 is the consolidation and realignment of medical care delivery in the National Capitol Region (NCR), with its focus on transforming medical care through a joint delivery system. As I recently testified, this extraordinarily complex undertaking will deliver major benefits that would not have been possible without BRAC. Moreover, its successful completion is dependent on the strict discipline that the BRAC process provides. The construction

now underway represents a balanced and reasonable approach to combining the functions of the old Walter Reed Army Medical Center into the new National Military Medical Center at Bethesda, Maryland. The result will be a medical delivery platform far superior to what we have now—and one on which we can continue to build.

Another BRAC 2005 action that my office has championed is the consolidation of 26 installations into 12 joint bases. At each joint base, a *supporting* Service Component provides installation leadership for one or more *supported* Service Components. By consolidating installation management and delivery of installation support, joint bases will be able to provide more efficient and effective support for the overall military mission.

Our joint bases represent realigned, reconfigured national military assets for the joint teams they serve. The first five joint bases reached full operational capability on October 1, 2009. The remaining seven joint bases reached initial operational capability on January 31, 2010, and are on their way to full operational capability this coming October. We are no longer "implementing joint basing." We are now "operating joint bases."

I had the opportunity to meet personally with most of the joint base commanders in January, and I am encouraged by their can-do spirit and dedication to providing excellent installation support to the joint teams at each base. Additionally, I have had the opportunity to tour two of our joint bases recently: Joint Region Marianas on Guam and Joint Expeditionary Base Little Creek-Ft. Story in Virginia. Having seen firsthand the extraordinary work they are doing, I have confidence that our joint base commanders will achieve efficiencies and other benefits as their installation support organizations mature.

Family Housing and Barracks

Housing is key to quality of life—in the military no less than in the civilian world. The FY 2011 President's Budget request includes $1.8 billion for Family Housing. This is a decrease of $436 million from the FY 2010 enacted level, which largely reflects the maturation of our Military Housing Privatization Initiative. Our request provides for the continued reduction of inadequate units; for operations and maintenance of government-owned housing; and for the privatization of more than 500 family housing units, most of them to support the Department’s Grow the Force initiative.

The Services have increasingly relied on privatization to address the oftentimes poor condition of military-owned housing and the shortage of affordable private rental housing available to military families. In my view, housing privatization is the single most effective reform my office has carried out.

Privatization allows the Military Services to partner with the private sector to generate housing built to market standards. It is extremely cost effective. To date, the Military Services have leveraged DoD housing dollars by a factor of 10 to 1: $2.7 billion in federal investments have generated $27 billion in privatized housing development at Defense installations. The privatized housing is also of high quality and often more appealing to young families than what the military construction process would produce. Moreover, the private owners have an incentive to maintain quality because they are responsible for maintenance and operation, including necessary recapitalization, during the full 50 years of the contract.

Comparison of Family Housing

($ Millions)	FY 2010 Enacted	FY 2011 Requested
Family Housing Construction/Improvements	488.7	356.8
Family Housing Operations & Maintenance	1,444.0	1,449.0
Family Housing Improvement Fund	2.6	1.1
Homeowners Assistance Program	323.0	16.0
TOTAL	**2,258.3**	**1,822.9**

The FY 2011 President's Budget request also includes funding to reduce inadequate (non-privatized) family housing in the United States and at enduring locations overseas. The budget includes $34 million for the Army to construct 64 family housing units in Baumholder, Germany, and $37 million for the Navy to replace 71 units at Naval Station Guantanamo Bay, Cuba.

The Department is committed to improving housing for its unaccompanied Service members, not just its families. The FY 2011 President's Budget includes $2.3 billion for 57 construction and renovation projects that will improve living conditions for approximately 17,000 unaccompanied personnel. The Army has also used its privatization authorities to improve unaccompanied housing. Bachelor officer quarters and senior enlisted bachelor quarters have been added to existing family housing privatization projects at Fort Bragg, North Carolina; Fort Stewart, Georgia; Fort Drum, New York; and Fort Irwin, California. A fifth project is planned soon at Fort Bliss, Texas.

The Navy, too, has used privatization as a tool to improve unaccompanied housing—specifically by bringing shipboard junior enlisted sailors ashore using a special pilot authority in the FY 2003 National Defense Authorization Act (10 USC 2881a). The first pilot project was awarded in December 2006 at San Diego, California, and the

second was awarded in December 2007 at Hampton Roads, Virginia. Both projects have demonstrated that, with authority to provide partial Basic Allowance for Housing to single service members, privatizing single, junior enlisted personnel housing is more cost effective than the traditional Government-owned barracks model.

Homeowners Assistance Program

The Homeowners Assistance Program (HAP) represents a very different type of program but one no less important to the quality of life of those who qualify. Since 1966, HAP has provided financial assistance to military personnel and DoD civilians at locations where home values decreased as a result of Defense action. The FY 2011 President's Budget request includes $17 million for HAP.

In February 2009, Congress provided $555 million in the American Recovery and Reinvestment Act (Recovery Act) to expand HAP to address unique economic pressures faced by military personnel who are required to relocate during adverse housing market conditions. Congress added another $300 million for HAP in the Consolidated Appropriations Act for 2010.

HAP seeks to minimize the amount of financial harm—including risk of foreclosure, credit damage or bankruptcy—that service member and civilian beneficiaries experience when they are compelled to move. As of March 3, 2010, HAP has assisted 771 homeowners at a program cost of $84 million. Another 4,652 homeowners are currently eligible.

II. FACILITIES SUSTAINMENT AND RECAPITALIZATION

In addition to investing in new construction, we must maintain, repair, and recapitalize our existing facilities. The Department's Sustainment and Recapitalization programs strive to keep our inventory of facilities in good working order and mission-capable. By providing a consistent level of quality in our facilities, we can raise the productivity of our personnel and improve their quality of life. The FY 2011 budget request includes $9.0 billion for sustainment and $4.6 billion for recapitalization (restoration and modernization) of our facilities.

Comparison of Sustainment and Recapitalization

($ Millions)	FY 2010 Enacted	FY 2011 Requested
Sustainment (O&M & MilPers)	8,251.0	9,042.0
Recapitalization (O&M, MilCon, MilPers, RDTE)	6,448.0	4,583.0
TOTAL S & RM	**14,699.0**	**13,625.0**

Sustainment represents the Department's single most important investment in the overall health of its inventory of facilities. Sustainment includes the regularly scheduled maintenance and repair or replacement of facility components—the periodic but predictable investments that should be made throughout the service life of a facility to slow its deterioration and optimize the owner's investment. We use a Facilities Sustainment Model (FSM) based on industry benchmarks to estimate the annual cost of regularly scheduled maintenance and repair for different types of buildings. We then require the Military Departments and Components to fund sustainment of their facilities at a level equal to at least 90 percent of the FSM-generated estimate. Our FY 2011 budget request is consistent with that requirement.

The second key investment we make in the health of our facilities is recapitalization (restoration and modernization). Recapitalization serves to keep the inventory of facilities modern and relevant in an environment of changing missions and standards, to extend the service life of facilities, and to restore capability lost due to man-made or natural causes including inadequate sustainment. Compared with sustainment, recapitalization needs are much harder to forecast because they are often a function of change, such as a new functional standard for enlisted housing, the availability of new technology (e.g., improved technology for heating and cooling), or even a change in the very mission that the facility supports. The FY 2011 budget request ($4.6 billion) is $1.9 billion lower than the FY 2010 enacted level primarily because we are nearing the end of the BRAC 2005 process, which drove a significant amount of recapitalization.

In the past, the Department used a target recapitalization rate to establish an annual investment level for the entire building inventory. In recent years our goal was to recapitalize buildings every 67 years. However, this approach did not provide information on the condition of individual buildings—precisely the kind of information that one should use to guide decisions on specific investments.

Since 2006, the Federal Real Property Council (FRPC) has required federal agencies to rate the quality of individual facilities using a Facility Condition Index (FCI). This quality rating, expressed in terms of the relationship between what it would cost to replace a facility and what it would cost to repair it, allows us to identify those facilities in greatest need of investment. By this measure, 18 percent of the 539,000 facilities in the Department's inventory are in poor condition and another 7 percent are in failing condition.

Using the facility condition data that DoD is already collecting, my staff is developing a new methodology for determining the level of investment needed overall and the optimal method of targeting that investment. We will consider factors other than just the condition of the building—e.g., mission priority. The result will be a capital investment plan to eliminate facilities that are in poor and failing condition.

In addition to sustaining and recapitalizing our facilities, we are committed to eliminating facilities that we either no longer need or cannot repair economically. Demolition is an important tool in any recapitalization and will also play a role in our capital investment plans. The FY 2011 budget request includes more than $200 million for this purpose.

III. MANAGING OUR ENERGY USE

The recently released Quadrennial Defense Review (QDR) makes clear that crafting a strategic approach to energy and climate change is a high priority for the Department. Although much of the focus has been on the energy we use in a combat setting ("operational energy"), the management of energy on our permanent installations ("facility energy") is also extremely important. The Energy Conservation Investment Project (ECIP) is a key element of the Department's facility energy strategy: ECIP supports energy efficiency and renewable energy projects based on payback and has achieved an estimated $2.16 in savings for every dollar spent. The FY 2011 President's budget requests $120 million for ECIP. This is $30 million above our FY 2010 request but less than the FY 2010 enacted amount ($174 million).

To put ECIP in context, let me briefly discuss why facility energy management is so important and what we are doing to improve it.

The way we manage energy at our permanent installations is important for two key reasons. First, facilities energy represents a significant cost. In 2009, DoD spent $3.8 billion to power its facilities—down from $3.96 billion in 2008. That represents about 28 percent of the Department's total energy costs (that fraction is higher in peacetime, when we are not consuming large amounts of operational energy). Moreover, energy needs for fixed installations in the United States will likely increase over the next several years as we "grow" the Army and the Marine Corps, reduce our presence in Iraq and Afghanistan, and continue to improve the quality of life for soldiers and their families—for example, by installing flat-panel TVs in individual rooms in a barracks that now has just one TV per common room.

Facilities energy is costly in other ways as well. Although fixed installations and non-tactical vehicles account for less than a third of DoD's energy costs, they contribute nearly 40 percent of our greenhouse gas emissions. This reflects the fact that our installations rely on commercial electricity, which comes from fossil fuels—principally coal. Given that facilities energy as a share of total DoD energy will increase when we reduce our presence in Iraq and Afghanistan, fixed installations will likely become DoD's major source of greenhouse gas emissions.

Second, installation energy management is key to mission assurance. According to the Defense Science Board, DoD's reliance on a fragile commercial grid to deliver electricity to its installations places the continuity of critical missions at serious and growing risk.[1] Most installations lack the ability to manage their demand for and supply of electrical power and are thus vulnerable to intermittent and/or prolonged power disruption due to natural disasters, cyber attacks and sheer overload of the grid.

Over the last five years, the Department has steadily reduced energy consumption per square foot at our permanent installations, largely in response to statutory and regulatory goals. While continuing that very positive trend, it is time for us to adapt our approach to installation energy management from one that is primarily focused on compliance to one that is focused on long-term cost avoidance and mission assurance.

In the last year, the Department has made energy policy a significantly higher priority. First, Secretary Gates has expressed his strong support for the goal of reducing energy consumption, and the QDR reflects his desire for a more strategic approach to energy security. As one indication of this commitment, the Department recently announced that, under Executive Order 13514, it will reduce greenhouse gas emissions from non-combat activities—largely installations and non-tactical vehicles—by 34 percent by 2020. Since greenhouse gas pollution is due overwhelmingly to direct energy use, this aggressive target, along with DoD's High Priority Performance Goals, will require major gains in energy efficiency at our installations.

Second, the Department is investing more to improve the energy profile of our fixed installations. Financing for these investments has come from annually appropriated funds, including military construction, operations and maintenance, and ECIP. We have utilized third-party financing through Energy Savings Performance Contracts and Utilities Energy Service Contracts. We are also pursuing other innovative financing mechanisms, such as Enhanced Use Leases and Power Purchase Agreements (PPAs).

Our basic investment strategy is twofold: 1) reduce the demand for traditional energy through conservation and energy efficiency; and 2) increase the supply of renewable and other alternative energy sources. Investments that curb demand are the most cost-effective way to improve an installation's energy profile. As Department of Energy (DOE) Secretary Steven Chu has observed, "Energy efficiency is not just the low hanging fruit; it's the fruit lying on the ground."

A large percentage of our demand-side (energy efficiency) investments are expended on projects to retrofit existing buildings. The Department spends almost $10 billion a year to sustain, restore and modernize our facilities. About one-sixth ($1.7

[1] "More Fight-Less Fuel," Report of the Defense Science Board Task Force on DoD Energy Strategy, February 2008.

billion) of this is spent on projects designed directly to improve energy efficiency. Typical projects install improved lighting, high-efficiency HVAC systems, double-pane windows, energy management control systems and new roofs. As we replace major components and subsystems in our buildings, the newer, more energy-efficient systems contribute to DoD's overall energy reduction goals.

In addition to retrofitting existing buildings, we are taking advantage of new construction to incorporate more energy-efficient designs, material and equipment into our inventory of facilities. The Department spent about $25 billion on military construction in FY 2009 and we will devote another $23 billion to construction in FY 2010. (As discussed earlier, we are asking for $18.7 billion for MilCon in FY 2011.) New construction must meet Leadership in Energy and Environmental Design (LEED) Silver standards and/or the five principles of High Performance Sustainable Buildings, which includes exceeding the energy efficiency standard set by the American Society of Heating, Refrigerating and Air-Conditioning Engineers by at least 30 percent.

On the supply side, our military installations are well situated to support solar, wind, geothermal and other forms of renewable energy. As you know, we have the second largest solar array in North America at Nellis Air Force Base in Nevada. Additionally, the geothermal plant at Naval Weapons Center at China Lake, California, is providing electricity to the state's electrical grid; hydrogen fuel cells provide back-up power for facilities at Fort Jackson, South Carolina; and the Marines will test a wave power program at Kaneohe Bay, Hawaii, in the near future.

The Department took advantage of the $7.4 billion it received through the Recovery Act to invest in both energy efficiency and renewable energy projects. We devoted $2 billion of that amount to projects designed to improve existing buildings, largely through upgraded systems and equipment. Of that, $120 million went to ECIP. Another $1.6 billion of Recovery Act funds is going to construct new facilities, all of which will meet LEED Silver standards and/or the five guiding principles of High Performance Sustainable Buildings.

Finally, our military installations can play a valuable role as a test bed for next generation technologies coming out of laboratories in industry, universities and the Department of Energy. DoD's built infrastructure is unique for its size and variety, which captures the diversity of building types and climates in the United States. For a wide range of energy technologies, DoD can play a crucial role by filling the gap (the "valley of death") between research and deployment. As both a real and a virtual test bed, our facilities can serve as a sophisticated first user, evaluating the technical validity, cost and environmental impact of advanced, pre-commercial technologies. For technologies that prove effective, DoD can go on to serve as an early customer, thereby helping create a market, as it did with aircraft, electronics and the internet. This will

allow the military to leverage both the cost savings and technology advances that private sector involvement will yield.

We are pursuing the energy test bed approach on a small scale through the Environmental Security Technology Certification Program (ESTCP). Using $20 million in Recovery Act funding, ESTCP awarded contracts through a competitive solicitation to nine projects to demonstrate technologies that will provide for increased energy efficiency or that will generate cost effective renewable power on site. For example, one ESTCP project team is conducting a multi-site demonstration of building-integrated photovoltaic roof concepts. By verifying that an energy efficient roof can perform its expected function, DoD can increase its capacity to generate renewable energy. The Naval Facilities Engineering Command leads this project in collaboration with Lawrence Berkeley National Laboratory. Demonstrations are taking place at Luke Air Force Base and Marine Corps Air Station Yuma, both in Arizona, and Naval Air Station Patuxent River in Maryland.

The test bed approach is key to meeting the Department's needs, but it is also an essential element of a national strategy to develop and deploy the next generation of energy technologies needed to support our built infrastructure. We hope to expand it, working closely with the Department of Energy and other agencies and organizations.

The Department is pursuing several other initiatives to address specific challenges or impediments to improved installation energy management. Let me briefly describe two of them.

First, we have begun what will likely be a major effort to address the risk to our installations from potential disruptions to the commercial electric grid. The Department is participating in interagency discussions on the magnitude of the threat to the grid and how best to mitigate it. We are also looking at how to ensure that we have the energy needed to maintain critical operations in the face of a disruption to the grid. As required by the National Defense Authorization Act, the Secretary of Defense this year will give Congress a plan for identifying and addressing areas in which electricity needed for carrying out critical military missions on DoD installations is vulnerable to disruption. The development of renewable and alternative energy sources on base will be one element of this effort, because—in combination with other investments—these energy sources can help installations to carry out mission-critical activities and support restoration of the grid in the event of disruption.

Second, we are devoting considerable time and effort to a complex and growing challenge—ensuring that proposals for domestic energy projects, including renewable energy projects, are compatible with military requirements for land and airspace. As noted above, military installations lend themselves to renewable energy development, and a renewable project can benefit the host installation by providing a secure source of

energy and reduced energy costs. In some cases, however, a proposed project can interfere with the military mission. For example, wind turbines can degrade air- and ground-based radar, and solar towers can cause interference by creating thermal images detrimental to sensitive testing of weapons systems. The current process for reviewing proposals and handling disputes is opaque, time consuming and ad hoc.

The Department is working to balance the nation's need for renewable sources of energy with military mission needs. The DoD "product team" devoted to sustaining our test and training ranges, which I co-chair, is working to come up with a better process for evaluating proposals from energy developers who want to site a renewable project on or near an installation. We have begun to reach out to potential partners, including other federal agencies, energy developers, state and local governments, and environmental organizations. In addition to working to improve the current approval process, the Department is looking at the role of research and development. New technology can allow us to better measure the potential impact of a proposed project. It can also help to mitigate the impact. For example, recent press accounts suggest that developments in stealth technology as applied to turbine blades can reduce the harm to ground-based (but not air-based) radar.

Conclusion

My office, Installations and Environment, takes very seriously our mission to strengthen DoD's infrastructure backbone—the installations that serve to train, deploy and support our warfighters. Thank you for your strong support for the Department's installation and environment programs, and for its military mission more broadly. I look forward to working with you on the challenges and opportunities ahead.